

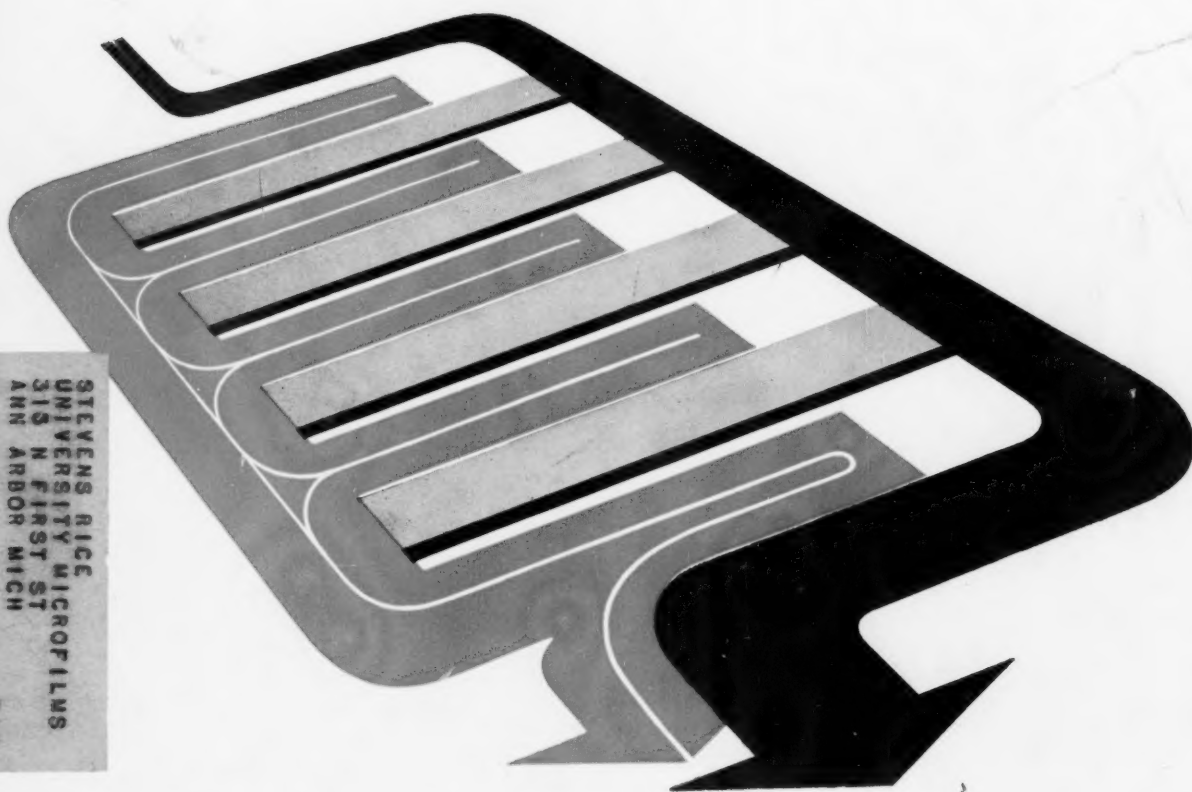
MATERIAL HANDLING

► Material Handling at the
Management Level . . . pages 61, 64, 68

FLOW

PRODUCTION • AUTOMATION • PACKAGING • SHIPPING

MAY 1956



STEVENS RICE
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F12

YOU CAN CONVEYORIZE JOB LOT PRODUCTION

.... page 71



Useful New Literature Page 153

New Equipment Section Page 161

NOELTING

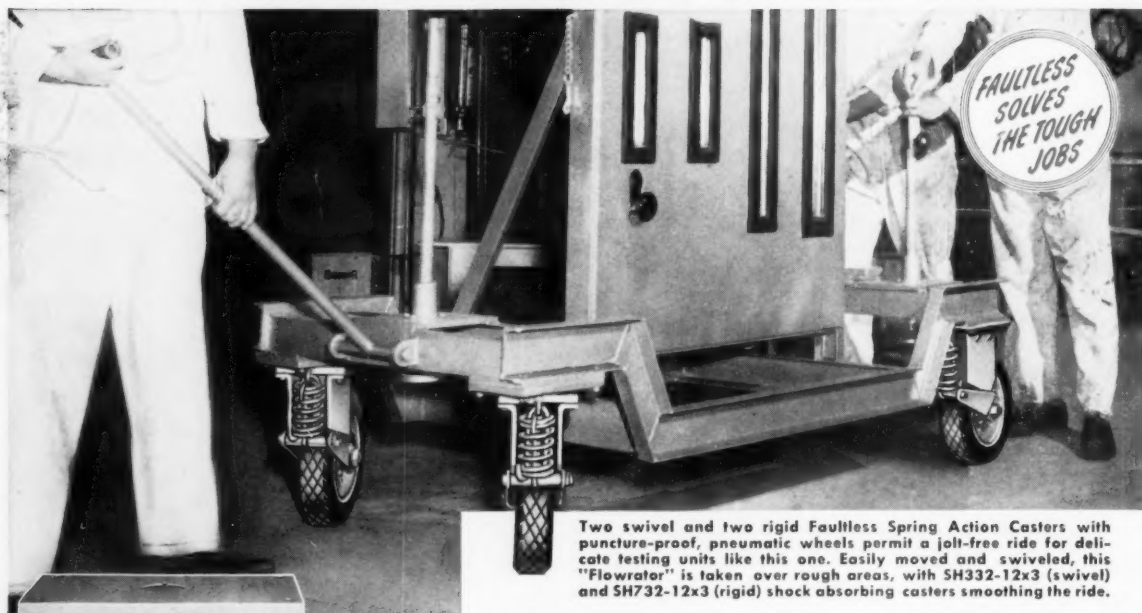


CASTER MATERIALS HANDLING FACTS

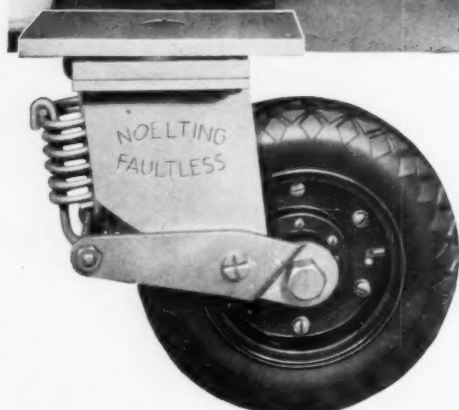
No. 4 in a series of

Caster Achievements for men in industry

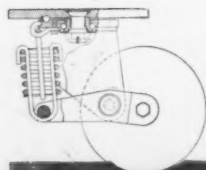
DOUGLAS AIRCRAFT COMPANY, TULSA, SOLVES DIFFICULT MATERIALS HANDLING PROBLEM FOR INSTRUMENTS



Two swivel and two rigid Faultless Spring Action Casters with puncture-proof, pneumatic wheels permit a jolt-free ride for delicate testing units like this one. Easily moved and swiveled, this "Flowrator" is taken over rough areas, with SH332-12x3 (swivel) and SH732-12x3 (rigid) shock absorbing casters smoothing the ride.



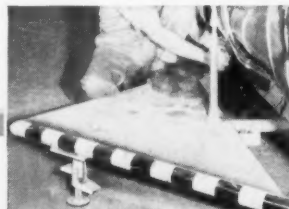
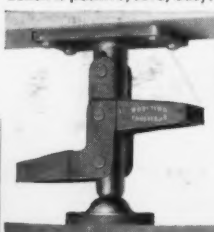
In the gigantic plant of Douglas Aircraft Company, Tulsa Division, many tough materials handling problems are solved with specially constructed castered dollies. For example, highly delicate equipment is used to test installations in the planes. A way was needed to transport this test equipment over rough ground without jarring the instruments. Douglas Tool Engineers designed the Flowrator, mobile test unit, mounted on Faultless Double Action Spring Casters. Sensitive test equipment thus is moved speedily and safely over uneven floor areas—inside and out-of-doors. Production costs are cut at testing locations because readjustment of the gauges is unnecessary. Equipment arrives ready for immediate use. To get the complete story on the Douglas caster application mentioned above, simply call your local Faultless Caster Distributor listed in your phone directory, or write us today.



Series SH300 Casters absorb impact shocks through use of large durable springs under constant compression. Spring assembly is an interchangeable member. Load rides at constant level. Standard, interchangeable wheels. Double ball bearing swivel construction. Hardened balls and raceways.

FAULTLESS ALL-STEEL FLOOR TRUCK LOCK

The FTL is locked and released by stepping down on separate pedals. Each action is positive, safe, easy.



The problem of safely holding heavy Douglas engine dollies securely in place during work is positively accomplished with Faultless All-Steel Floor Truck Locks. The steel brake disc makes flat contact even when floor surface is not level.

FAULTLESS CASTER CORPORATION EVANSVILLE 7, IND.

Offices in Atlanta, Baltimore, Boston, Buffalo, Chicago, Cleveland, Dallas, Detroit, Grand Rapids, High Point, Indianapolis, Los Angeles, New Orleans, New York, Philadelphia, Portland, Seattle, St. Louis, Canada, Stratford, Ontario.

Circle No. 63 on Reader Service Card for more information

INTEGRATED HANDLING *Management Profit Tool*

Integrated Handling—Management Profit Tool—will be the theme of the twelve technical sessions sponsored by the American Material Handling Society at the Cleveland Public Auditorium in Cleveland, Ohio, June 5, 6, and 7.

Qualified management experts will discuss management aspects of material handling.

Because you are interested in increasing production and decreasing costs, you will find these technical sessions valuable. Stiffening competition, high volume activity, increased production in existing and new facilities—these make integrated material handling a management challenge. The AMHS Technical Sessions are planned to help you meet the challenge of using one of management's profit tools—integrated handling.

The sessions include meetings on work measurement, cost analysis, automation, work simplification, plant layout, traffic management, distribution, and storage.

The technical sessions are being held in conjunction with The Material Handling Institute's Exposition of 1956. More than 150 material handling equipment manufacturers will be exhibiting new equipment and demonstrating new handling techniques and ideas in a show devoted *exclusively* to material handling equipment. The Exposition will be June 5 through 8.

Twelve morning technical sessions scheduled during the first three days of The Material Handling Institute's Exposition of 1956 will permit those attending the Exposition and Technical Sessions maximum flexibility in selecting sessions to suit their interests and allow ample time to visit the exhibits.



AMERICAN MATERIAL HANDLING SOCIETY

Technical Sessions

June 5, 6, and 7

**Cleveland Public Auditorium
Cleveland, Ohio**



held in conjunction with

**THE
MATERIAL HANDLING
INSTITUTE'S EXPOSITION
of
1956**

June 5 thru 8



Technical Session Fees:

	<i>AMHS Member</i>	<i>Non- member</i>
Cost for 1 day (2 sessions)	\$10.00	\$12.00
Cost for 3 days (6 sessions)	25.00	30.00

National AMHS Dinner, June 6, 6:30 p.m.,
Hotel Cleveland, \$7.00.

Registration card with your sessions choices and
check to cover cost of sessions (and National
AMHS Dinner) should be sent to

AMERICAN MATERIAL HANDLING SOCIETY
Technical Sessions General Committee
Box 6662, Cleveland, Ohio

A complete schedule of AMHS technical session
speakers and subjects is listed at the right.



*First
National*

AMERICAN MATERIAL HANDLING SOCIETY

Dinner

CLEVELAND HOTEL

June 6, 6:30 p.m.

Speaker:

JOHN R. BRIGHT, *Chief Planning Engineer*
Joseph Lucas, Ltd., Birmingham, England
Past Chairman,

The Institute of Material Handling
of the United Kingdom

INSTALLATION OF OFFICERS

PRESENTATION OF NATIONAL AWARDS

Dinner Tickets: \$7.00

June 5, 9:00 a.m.

JAMES APPLE, Michigan State University
"Relationship of Plant Layout to Material Handling"

... the importance of the flow pattern and the prob-
lems involved in the implementation of the flow pattern
by material handling equipment.

June 5, 10:45 a.m.

ALAN H. MOGENSEN, Work Simplification Con-
ferences

*"Work Simplification and Its Use in Material
Handling"*

... expert in the field of work simplification, Mr.
Mogenson will discuss management aspects of work
simplification in the field of material control and
handling.

June 6, 9:00 a.m.

FRED V. GARDNER, Fred V. Gardner Associates

"Analyzing Material Handling Costs"

... variable budgets and dynamic costing and their
relationship to profit management with special emphasis
on material handling.

June 6, 10:45 a.m.

GROVER BARKDOLL, Methods Engineering Council

"Operation Analysis in Materials Handling"

... logical and systematic procedures for determining
whether a mechanical means for handling material is
justifiable costwise.

June 7, 9:00 a.m.

JOSEPH W. SHIMP, Marinette Paper Company

"Paper Mill Management Looks at Material Handling"

... an industry using bulky raw material, large vol-
ume, and relatively low cost items — the impact of
material handling on quantity, quality, cost and
personnel.

June 7, 10:45 a.m.

H. B. MAYNARD, President, Methods Engineering
Council

"Work Measurement and Material Handling"

... a specialist in methods engineering and manage-
ment techniques discusses methods-time measurement
as related to material handling.

June 5, 9:00 a.m.

E. ALBERT OVENS, Vice President, Academy of Advanced Traffic

"Traffic Management and Material Handling"

... the close relationship between traffic management and material handling and management considerations in coordinating the two service operations will be the theme of Mr. Ovens' paper.

June 5, 10:45 a.m.

GEORGE RAYMOND, JR. President, The Material Handling Institute

"Top Management and Material Handling"

... Management aspects of integrated material handling systems and the relationship of material handling to overall management.

June 6, 9:00 a.m.

ANDREW J. BRIGGS, Head, Material Handling and Warehousing Branch, Department of the Navy, Bureau of Supplies and Accounts

"A Simplified Approach to Stock Positioning and Space Control"

... the application of four simple steps to determine stock position plus considerations to promote the proper equipment selection and control of operating space.

June 6, 10:45 a.m.

WILBUR D. WARNER, Materials Handling Manager, Sears, Roebuck and Company

"Distribution in Relationship to Material Handling"

... a case history report of centralized warehousing and distribution of merchandise as practiced by Sears, Roebuck and Company.

June 7, 9:00 a.m.

JAMES R. BRIGHT, Harvard University

"Managerial Problems Arising Out of Automation"

... significant findings from 15 months research in 12 different firms employing highly automatic systems — motives and benefits of automation, disadvantages, problems of design, installation and operation.

June 7, 10:45 a.m.

DR. LILLIAN GILBRETH, Knapp Visiting Professor

... "the world's greatest woman engineer" discussing management responsibilities in education and training.

Yes I WANT TO REGISTER FOR . . .

Technical sessions sponsored by the American Material Handling Society at The Cleveland Public Auditorium in Cleveland, Ohio, June 5, 6, and 7 — during The Material Handling Institute's Exposition of 1956. I have indicated at the right the sessions I want to attend and whether I plan to attend the AMHS National Dinner, June 6, at 6:30 p.m. in the Hotel Cleveland.

<input type="checkbox"/> JAMES APPLE, Michigan State University "Relationship of Plant Layout to Material Handling"	9:00 A.M., Tuesday, June 5	<input type="checkbox"/> E. ALBERT OVENS, Academy of Advanced Traffic "Traffic Management and Material Handling"
<input type="checkbox"/> ALAN H. MOGENSEN, Work Simplification Conferences "Work Simplification and Its Use in Material Handling"	10:45 A.M., Tuesday, June 5	<input type="checkbox"/> GEO. RAYMOND, JR., Pres., The Material Handling Institute "Top Management and Material Handling"
<input type="checkbox"/> FRED V. GARDNER, Fred V. Gardner Associates "Analyzing Material Handling Costs"	9:00 A.M., Wednesday, June 6	<input type="checkbox"/> ANDREW J. BRIGGS, Head of Material Handling and Warehousing Branch, Navy Bureau of Supply and Accounts "A Simplified Approach to Stock Positioning and Space Control"
<input type="checkbox"/> GROVER BARKDOLL, Methods Engineering Council "Operation Analysis in Material Handling"	10:45 A.M., Wednesday, June 6	<input type="checkbox"/> W. D. WARNER, M. H. Mgr., Sears, Roebuck and Co. "Distribution in Relationship to Material Handling"
<input type="checkbox"/> JOSEPH W. SHIMP, Marinette Paper Company "Paper Mill Management Looks at Material Handling"	9:00 A.M., Thursday, June 7	<input type="checkbox"/> JAMES R. BRIGHT, Harvard University "Managerial Problems Arising Out of Automation"
<input type="checkbox"/> H. B. MAYNARD, Methods Engineering Council "Work Measurement and Material Handling"	10:45 A.M., Thursday, June 7	<input type="checkbox"/> DR. LILLIAN GILBRETH, Knapp Visiting Professor "The Relationship of Industry to Education and Training"

Enclosed is check for \$..... payable to AMHS Technical Sessions General Committee

(over)

☐ AMHS National Dinner
June 6, 1956, 6:30 p.m.
Cleveland Hotel

last name initials company name street city zone state

☐ I am a member of AMHS

Enclose this registration card and send, together with your check, to

AMERICAN MATERIAL HANDLING SOCIETY
Technical Sessions General Committee
Box 6662, Cleveland, Ohio

Hotel Information

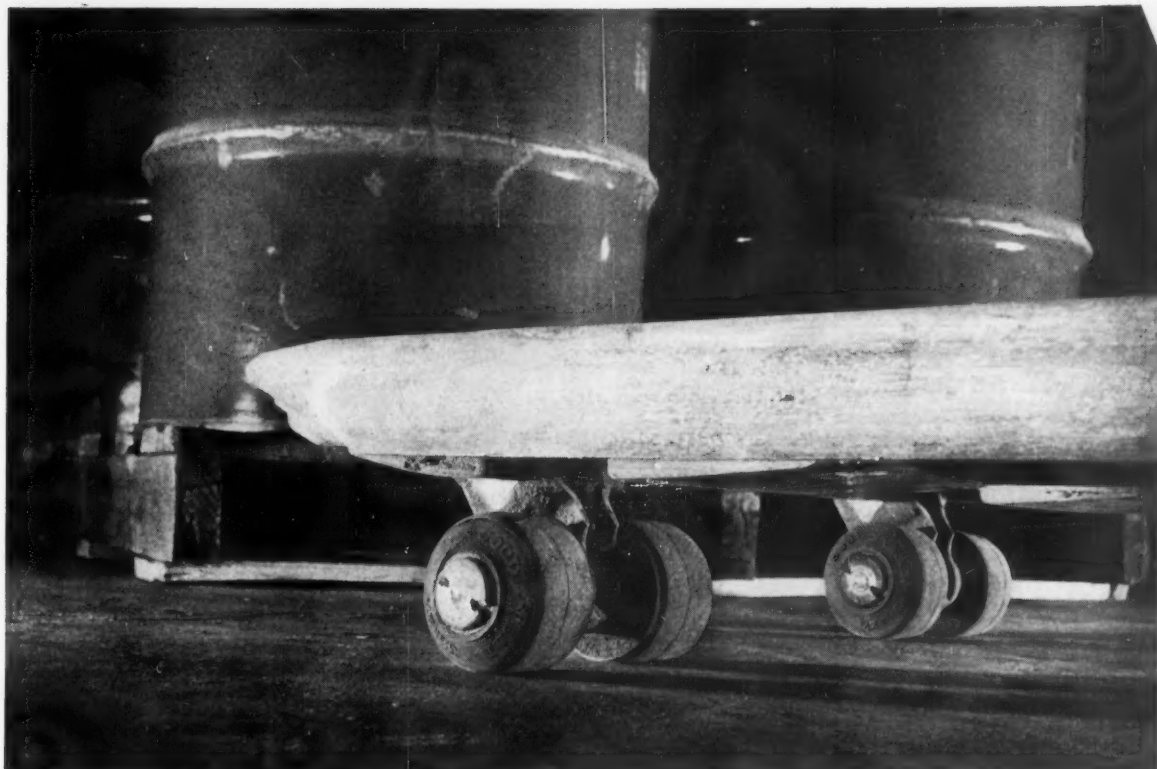
To assure adequate hotel space for everyone attending the Technical Sessions and the Exposition, all reservations are being handled by the Cleveland Convention Housing Bureau.

Requests for reservations should include first, second, and third choices of hotels; type of room desired; and arrival time. Cleveland hotels listed by the Housing Bureau are:

Alcazar Hotel	Park Lane Villa
Auditorium Hotel	Quad Hall
Bolton Square Hotel	St. Regis Hotel
Carter Hotel	Sovereign Hotel
Cleveland Hotel	Statler Hotel
Commodore Hotel	Stockbridge Hotel
Hollenden Hotel	Tudor Arms
Manger Hotel	Wade Park Manor
Olmsted Hotel	Westlake Hotel

Address requests for reservations to:

Mrs. LOUISE D. PERKINS, Director
Cleveland Housing Bureau
511 Terminal Tower
Cleveland 13, Ohio



Made-to-order answer for a tire-killing problem!

THE tires you see here are on the front wheels of a pallet lift truck. And they used to deteriorate rapidly under the grueling multi-thousand pound loads they carried.

Then the question of how to get longer tire life in this operation was put to the Goodyear Industrial Tire Specialist.

The result? A new Goodyear *High Load compound* was created especially for pallet truck wheels—producing many, many extra hours of tire life for this plant's trucks—plus all the maintenance and cost savings that come with it.

This may not be your problem. But it is a good example of how thoroughly the folks representing Goodyear Industrial Tires look not only for the right way to fit the tire to the truck—but *more important, the right way to fit the tire to the job.*

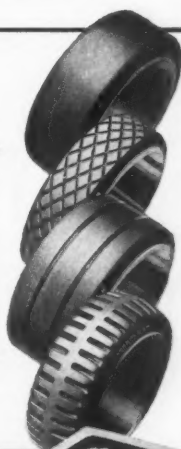
Your Goodyear Dealer will be happy to give you the full story on America's most complete line of industrial tires. Or you can write: Goodyear, Industrial Tire Sales, Akron 16, Ohio.

SMOOTH-SOLID
—for factory, warehouse
and loading platform

ALL-WEATHER TREAD SOLID
—for ramps, wet surfaces
and other extra-traction
conditions

GROOVED TREAD SOLID
—built to take heavy
punishment on big trucks

**ALL-SERVICE TREAD
XTRA CUSHION SOLID**
—built with compact lug
design for fast, easy rolling
with maximum smoothness
and stability



Look for this sign;
there's a Goodyear dealer
near you.



USE THE RIGHT TIRE FOR THE JOB—BUY AND SPECIFY

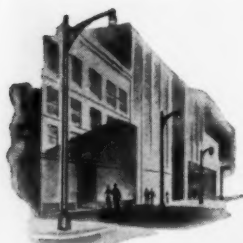
GOOD YEAR

INDUSTRIAL TIRES

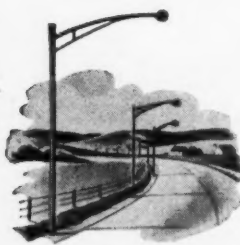
All-Service, All-Weather, Xtra Cushion—T.M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

We think you'll like THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network

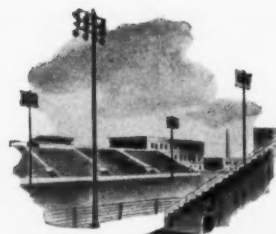
MAY, 1956



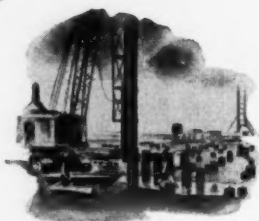
Street Lighting Poles



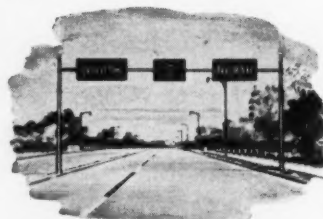
Highway Lighting Poles



Floodlighting Poles



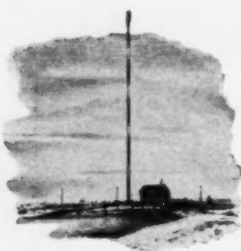
Foundation Piles



Overhead Sign Supports



Sign Poles



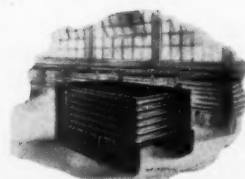
Antenna Poles



Power Distribution Poles



Booms and Masts



Material Handling Equipment

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craftsmen in metal fabrication
since 1906
50 YEARS OF PROGRESS
through
QUALITY and SERVICE



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UNDERFLOOR CONVEYOR SYSTEM TRUCKS



1200 TO 4000 LBS.
CAPACITY

THOMAS UCS SERIES



OVERHEAD CONVEYOR SYSTEM TRUCKS

THOMAS MAST Series Trucks are available with "Job-Suited" Superstructures and attaching devices to meet your requirements. Available in 1200 to 4000 lb. capacities.

• There is a THOMAS Representative in every Trade Area. Write for free literature describing the complete line of THOMAS "Job-Suited" Trailers, Trucks, Casters, Wheels and "Jak-Tung" Systems.

Designed and built for use with Underfloor Conveyor Systems, THOMAS UCS Series Trucks have rugged steel frames, and are available with "Job-Suited" Superstructures to meet your individual requirements. The No. 589-UCS Truck is shown above equipped with floor-saving "Resonite" wheels, however all trucks in this series may be ordered with rubber tired, roller bearing wheels. Push rack shown has convenient angled writing board with clip at top for holding papers. Hardened steel coupling pin is swivel-type to reduce wear and is designed to provide fast, positive coupling.



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Here is Industry's



FASTEST and SMOOTHEST OPERATING 2000-lb Lift Truck

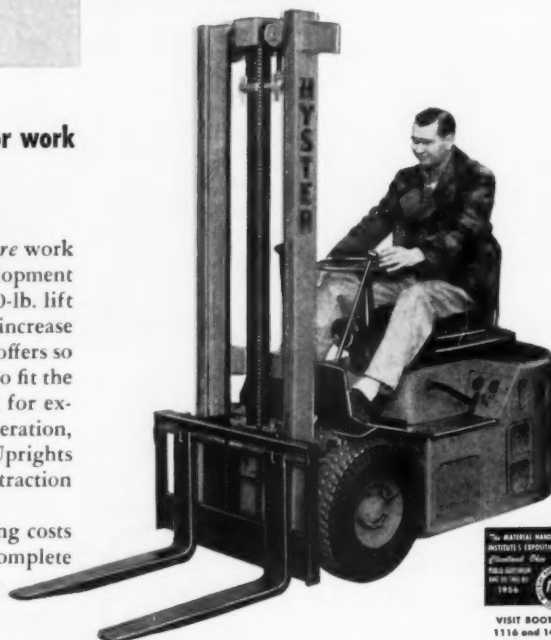
The All-Purpose HYSTER QN-20 (pneumatic tires)

Gets more work done because operator can maneuver faster in close quarters, work easier with less fatigue.

- **COMPACT, RUGGED CONSTRUCTION —**
ideal for indoor and outdoor work
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for smooth, quiet shifting

It all adds up to the *fact* that the Hyster® QN-20 gets *more* work done per day. As the result of more than a decade of development and successful operation in many industries, no other 2000-lb. lift truck today offers so many advanced design features which increase *operating* (and operator) efficiency. No other truck today offers so many variations and adaptations, which makes it possible to fit the truck to the conditions of *your* particular job. Available, for example, are more than 100 job-attachments, L-P Gas operation, free-lift models for low overhead clearances, Monomast Uprights for "panoramic visibility", dual drive wheels for greater traction and flotation over rough surfaces.

Use the Hyster QN-20 to reduce your materials handling costs by as much as 80%. Call your Hyster Dealer today, for complete information. He is listed in the yellow pages of your telephone directory under "Trucks, Industrial".



MONOMAST	FREE-LIFT	DUAL-DRIVE WHEELS	L-P GAS	LOAD-GRAB®



Materials Handling Trucks from 1,000 to 30,000 pound capacities.

HYSTER COMPANY

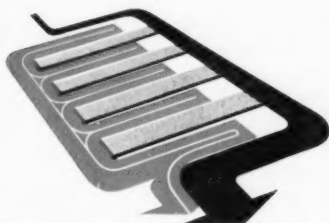
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THE COVER

Conveyorization in a plant with job-shop production and assembly operations is depicted in this month's cover story. Extreme flexibility is required to handle the many types and styles of parts.

SUBSCRIPTION RATES

United States and possessions—\$5.00 per year, \$8.00 for 2 years. Subscriptions in the United Kingdom: £2.5 per annum, payable in Sterling to our London Office.

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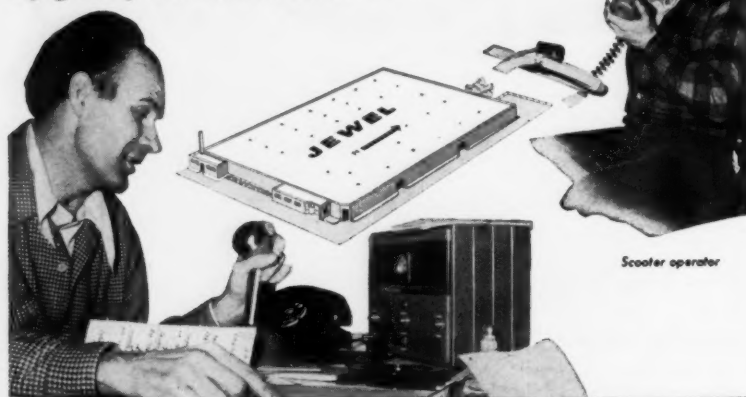
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RCA Radio-equipped scooters and forklift trucks speed materials handling in world's largest dry grocery distribution center . . .



Scooter operator

"When minutes mean dollars radio helps save them!"

This is how Jewel Tea Co., Inc., feels about their RCA 2-Way Radio communications system which helps to knit all operations together into a well integrated team:

"Improving service—by building one of the world's most efficiently planned warehouses and developing operating methods such as palletized shipments—also meant developing an efficient, flexible communication system for the control of warehouse operations. Using their RCA 2-Way Radio, our foremen, forklift truck operators, trailer spotter, shipping coordinator, truck dispatcher, receiving clerk and receivers—some of whom operate almost two city blocks from one another—are available for instant action or consultation when any need arises.

"The maximum flexibility afforded by our communication system allows changes in the normal work pattern to be easily taken in stride. Thanks to radio, our operators have maximum control which not only aids in developing a coordinated team effort, but also in reducing costs of operation."

Why are the leaders choosing RCA 2-Way Radio? They are impressed with RCA's fine service organization and the years of RCA leadership in radio and electronics. Superior tubes, crystals and microphones for clearer talking, longer life. Heavy-gauge steel case for rugged use.



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Communications Products, Dept. E-131, Building 15-1, Camden, N. J.
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- ☐ Please send new booklet "How RCA Radio Control Cuts Cost of Materials Handling."
☐ Have RCA Communications Specialist call on me.

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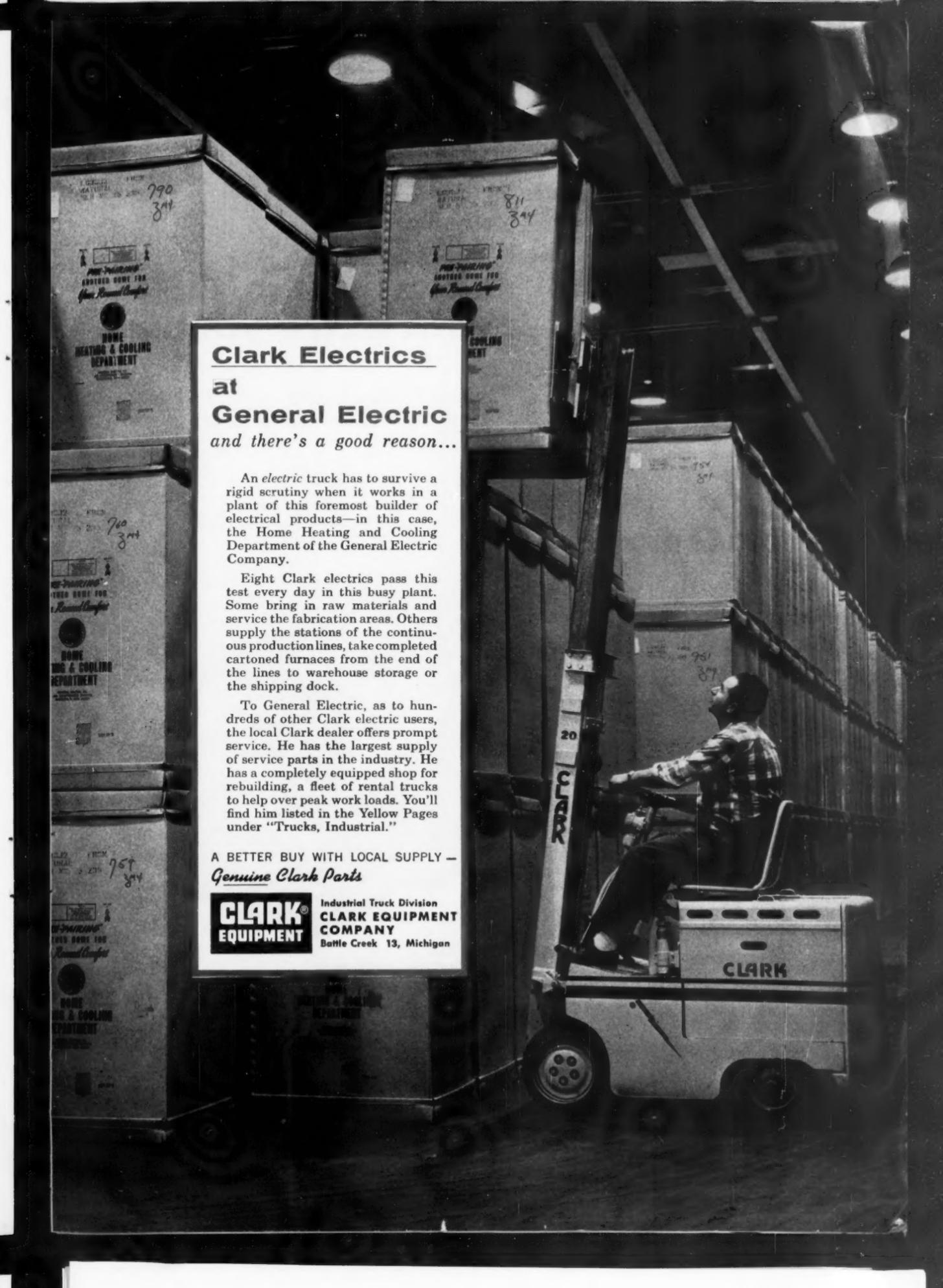
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EPA

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FLOW'S MATERIAL HANDLING ILLUSTRATED
PRECISION METAL MOLDING
APPLIED HYDRAULICS
INDUSTRY AND WELDING
WELDING ILLUSTRATED
OCCUPATIONAL HAZARDS
COMMERCIAL REFRIGERATION AND AIR CONDITIONING
MODERN OFFICE PROCEDURES

Circle No. 36 on Reader Service Card →



Clark Electrics
at
General Electric
and there's a good reason...

An electric truck has to survive a rigid scrutiny when it works in a plant of this foremost builder of electrical products—in this case, the Home Heating and Cooling Department of the General Electric Company.

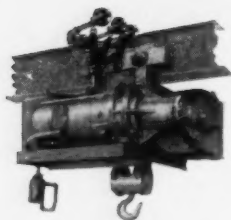
Eight Clark electrics pass this test every day in this busy plant. Some bring in raw materials and service the fabrication areas. Others supply the stations of the continuous production lines, take completed cartoned furnaces from the end of the lines to warehouse storage or the shipping dock.

To General Electric, as to hundreds of other Clark electric users, the local Clark dealer offers prompt service. He has the largest supply of service parts in the industry. He has a completely equipped shop for rebuilding, a fleet of rental trucks to help over peak work loads. You'll find him listed in the Yellow Pages under "Trucks, Industrial."

A BETTER BUY WITH LOCAL SUPPLY —
Genuine Clark Parts

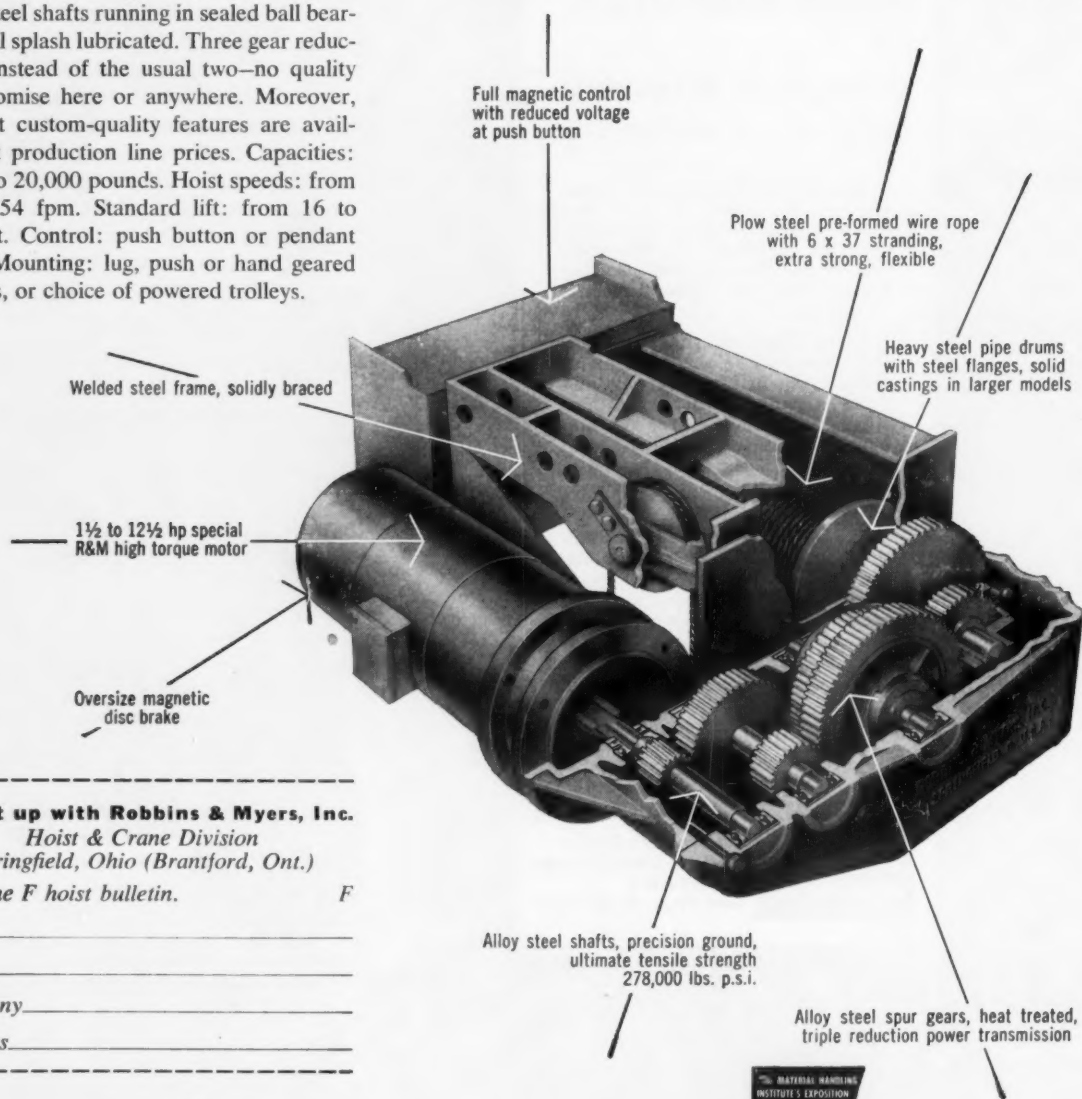
**CLARK®
EQUIPMENT**

Industrial Truck Division
**CLARK EQUIPMENT
COMPANY**
Battle Creek 13, Michigan



R F hoists cut down the cost of lifting but the F hoists save still more money. Dollars usually spent on maintenance become dollars earned because of the extra stamina built into each component. Look at the gearing—here are precision cut alloy steel spur gears, wide faced and heat treated for durability. They're mounted on alloy steel shafts running in sealed ball bearings, all splash lubricated. Three gear reductions instead of the usual two—no quality compromise here or anywhere. Moreover, F hoist custom-quality features are available at production line prices. Capacities: 1000 to 20,000 pounds. Hoist speeds: from 10 to 54 fpm. Standard lift: from 16 to 40 feet. Control: push button or pendant rope. Mounting: lug, push or hand geared trolleys, or choice of powered trolleys.

choose a hoist with extra stamina



take it up with **Robbins & Myers, Inc.**
Hoist & Crane Division
Springfield, Ohio (Brantford, Ont.)

Send me F hoist bulletin.

F

Name _____

Title _____

Company _____

Address _____

ROBBINS & MYERS

hoists • cranes • winches



Circle No. 156 on Reader Service Card for more information

BANTAM[®] self-propelled



One-man operated to speed work and cut costs in your yards!

Never has there been a yard machine like the BANTAM—THAT CAN DO so many jobs so quickly and so efficiently! It's the true one-man rig ready for all your yard work: lifting, loading and stacking parts and supplies . . . fast handling of bulk materials . . . moving and sorting raw materials and finished parts. Lifts up to 12,000 lb. and loads up to 100 cubic yards per hour with excavating attachment.

Check the specs of the BANTAM and you'll see it's quality built with all the high-speed features you want and need. It's easily maneuvered in and out of tight spots,

* As shown complete with crane boom, outriggers, hook block (less boom safety stops) f.o.b. Waverly, Iowa. Price subject to change without notice.

travels with ease with the *one* operator controlling all movements from his cab seat. Has full-circle 360° swing . . . power up and power controlled lowering for safe, precise handling . . . all-weather, all-vision cab. And it works with nine separate attachments built by BANTAM to do any job you have!

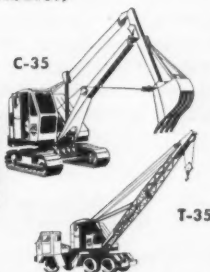
Try the BANTAM SELF-PROPELLED yourself . . . see its money-saving importance to your operation! Call your BANTAM distributor!

Lowest
priced . . .
only
\$11,545*



251 Park St., Waverly, Iowa, U.S.A.

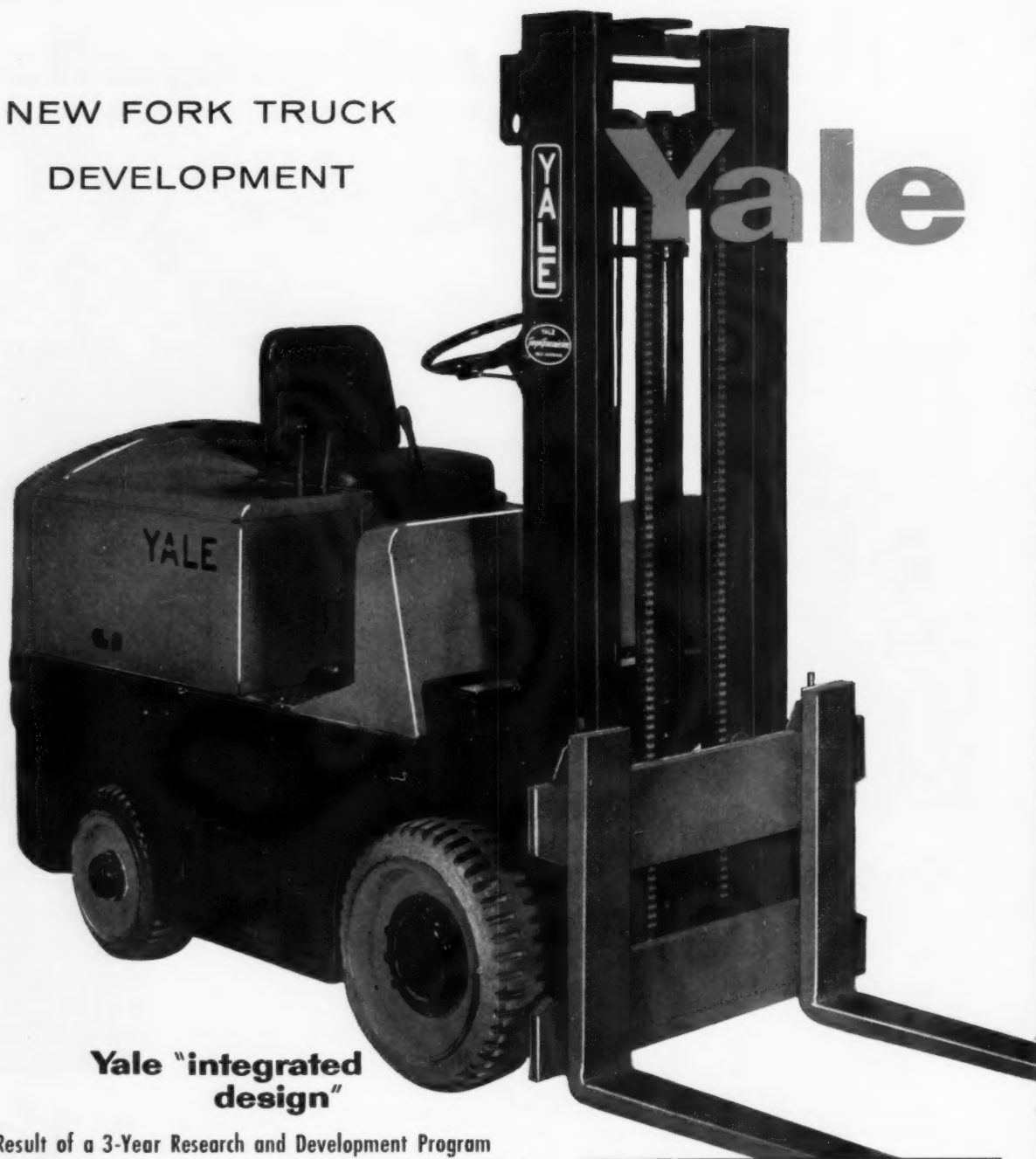
World's Largest Producer of Truck Cranes and Excavators



SCHIELD BANTAM CO., 251 Park St., Waverly, Iowa, U.S.A.	
I want to know more about the BANTAM Self-Propelled! Send full details.	
Also send information on <input type="checkbox"/> Carrier Mounted	
<input type="checkbox"/> Crawler Mounted	<input type="checkbox"/> Pedestal Mounted.
Name _____	
Title _____	
Company _____	
Address _____	
City _____	State _____

Circle No. 162 on Reader Service Card for more information

NEW FORK TRUCK DEVELOPMENT



Yale "integrated design"

Result of a 3-Year Research and Development Program

Yale combined 3 years of intensive research, development and field-testing to meet the urgent need of every industry for a complete line of gas, diesel, LP-gas and electric fork lift trucks which would assure increased safety, speed and efficiency. The result is Yale "Integrated Design"—the incorporation of the latest engineering and design advances as *standard features* in a complete new line of fork trucks that not only give management positive control over handling costs through high efficiency operation, but also reduce operator fatigue and promote operator safety.

LATEST YALE FIRST!

New Yale KG51 series gas trucks are the only industrial lift trucks which are GS approved by Underwriters' Laboratories. These Yale trucks satisfy all the requirements of the National Fire Protective Association for safe use where combustible fibers or containers of hazardous liquids or gases are being handled in storage. All new Yale gas trucks have Factory Mutual and Underwriters' Laboratories G approval.

"integrated design"

... now makes available a complete new line of fork lift trucks incorporating—for the first time in the industry—premium engineering advances as standard features.

Yale "Integrated Design" offers a complete choice of fork trucks, engineered to eliminate all handling-cost waste by meeting each industry's specific requirements for power, capacity, efficiency, safety, versatility and operator comfort. All the critical features necessary for maximum performance and minimum handling costs are built in as standard features throughout the entire Yale fork truck capacity range of 2,000 to 10,000 pounds!

New fully-automatic Yale Torque Transmission provides an infinite ratio of speeds and an automatic response for every power demand in starting or climbing grades under all load conditions. Coordinated inching control permits smooth, accurate maneuvering when high engine speeds are required for fast lifting. Forward or reverse travel motion is obtained by the mere flick of a switch located on the steering column. Standard Transmission and Fluid Coupling are also available in all capacities.

Self-adjusting hydraulic wheel brakes. An original Yale development (now, like many other Yale firsts, adopted by the industry), these brakes, of increased capacity in

the new Yale truck line, are mounted directly to each drive wheel for easier, faster stopping without jolting or load damage.

New Yale power lift is faster, smoother. Along with increased travel speeds, all new Yale truck models feature an improved roller channel construction that prevents hose damage and increases visibility. Side-thrust rollers reduce stress and compensate for off-center loading. Incorporated are other Yale-pioneered features: the anti-cavitation or unloading valve that eliminates channel sway; the flow-regulator valve that assures smooth lowering control without excessive speed.

New Yale "convenience styling." New Yale trucks are lower-built, more streamlined. Lowered cowl, "open vision" uprights and recessed, adjustable seats add to the visibility and protection of the operator. Yale "convenience styling" increases operator efficiency with controls for hoisting, lowering, tilting of channels and operation of attachments positioned for easy, right-hand operation—leaving the left hand free for steering. Instruments are waterproofed and recessed for protection in the lowered cowl, where they are centrally grouped for easy

reading. Yale's fuel tank holds sufficient fuel for a full shift's operation, is easily removable and heavily protected within steel sections. The "swing out" battery permits quick servicing and engine accessibility. The Yale-developed one-piece steel drive axle housing with pressed-in steel alloy sleeve assures longer life.

1956 Yale electric trucks incorporate many of the above construction features with such Yale electric truck features as multiple-speed design (four forward, four reverse) based on Yale's exclusive, patented, Magnetic Cam-O-Tactor controller providing smooth acceleration without "jumping" a speed range, and the dead-man control built into the seat to set mechanical wheel brakes when the operator leaves the truck.

First public showing of new Yale line. See new Yale trucks in action at the Materials Handling Institute Exposition in Cleveland, June 5 to 8. Assess for yourself the industry's most significant advances in industrial lift truck design. For more information now on the new Yale line, write: The Yale & Towne Manufacturing Company, Philadelphia 15, Pa., Dept. 45.

YALE *

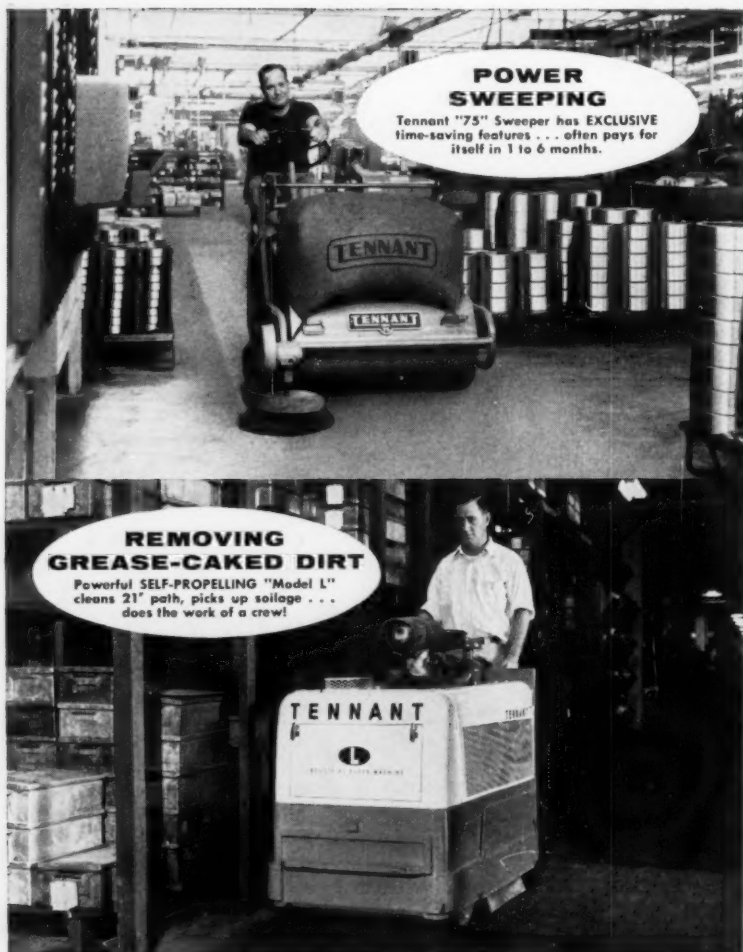
*REG. U. S. PAT. OFF.

INDUSTRIAL LIFT TRUCKS AND HOISTS

Gas, Electric, Diesel & LP-Gas Industrial Lift Trucks • Worksavers • Warehouseurs • Hand Trucks • Hand and Electric Hoists

Circle No. 198 on Reader Service Card for more information

MAY, 1956



save 30% to 60% on both floor cleaning jobs

As a result of **EXCLUSIVE** features, **TENNANT** machines avoid usual time-wasting delays on floor-cleaning jobs... usually save you 30% to 60% in labor costs alone.

In sweeping, for example, a **TENNANT "75"** Sweeper picks up all types of litter on-the-run... reverses instantly... drives like a car. Does a very clean job even in dusty areas and usually outperforms a 3 to 12-man crew. Several types, sizes.

Ask for **FREE** inspection and savings estimate

In removing traffic-packed dirt, too, a **TENNANT** Industrial Floor Machine saves extra manhours. Cleans and picks up in one operation... leaves smooth, dry surface for traffic. Very efficient. Many types: 8" to 36" path. **WRITE** for free inspection of your floors and estimate of probable cost-savings.

G. H. **TENNANT** COMPANY, 2576 N. 2nd St., Minneapolis 11, Minn.



**FLOOR
MACHINES**

SPECIALIZED MAINTENANCE EQUIPMENT

POWER SWEEPERS • FLOOR MACHINES • SCARIFIERS • ROOF SCRAPERS • CONCRETE ROUTERS

Circle No. 173 on Reader Service Card for more information

LETTERS

TO THE

EDITORS

Slick Shippers Slip Stick

To FLOW:

In your February issue, under "Packaging and Shipping Idea of the Month," you published an item on "Shippers Slide Rule"—a device initiated by Campbell Soup Company to help determine loading heights and stacking patterns in transportation conveyances.

Would it be possible to obtain a dozen reprints of this article for distribution to our various shipping centers for their consideration?

R. C. Waehner, General Manager
Distribution Division
Lever Brothers Co.
New York, N. Y.

Tearsheets and reproductions are available.

Wanted: Expert Consultant To FLOW:

We regularly read your magazine and are of the opinion that much could be done in our plant to make our material handling more efficient from the standpoint of equipment and arrangement. But we feel that we need the services of an expert consultant not connected with any handling equipment.

Feeling that you may be in a position to direct us to the right party, we would appreciate your suggestions as to the best way to proceed to modernize our plant from the standpoint of cost-reducing material handling.

We are manufacturers of metal building products, steel and aluminum windows, steel door frames, etc.

Any information you can give us on the road to more efficient handling will be appreciated.

R. F. Zang, President
Kewanee Manufacturing Company
Kewanee, Ill.

Amazing new electronic

"inspector"

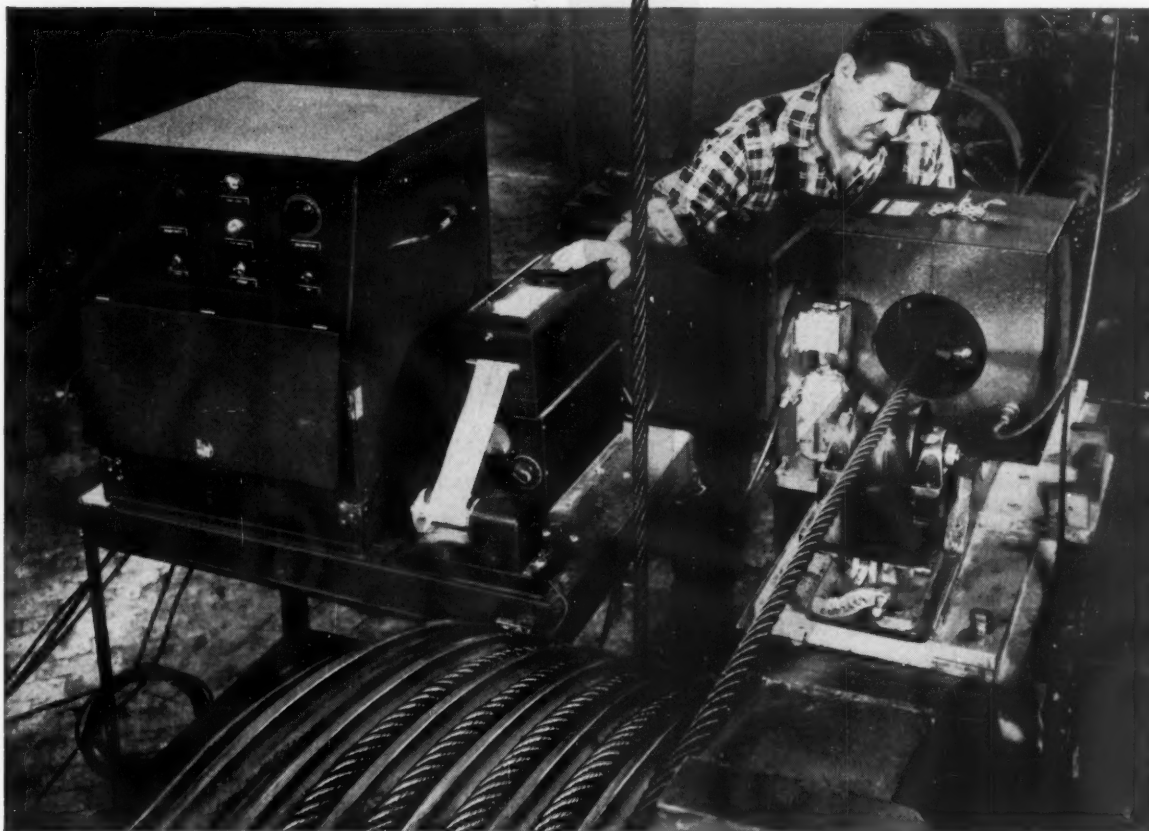
detects slightest imperfections in wire rope

This new inspection machine literally "sees through" wire rope and detects any imperfections that may occur in the manufacturing process. It inspects every inch of rope, 360° around, and *all the way through!* If an imperfection occurs, the machine instantly records it on a chart, squirts paint on the rope, lights a light and alerts the operator to correct the flaw.

In the preliminary tests using wire rope containing specimen broken wires, the electronic

"inspector" proved 100% effective. It didn't miss one. These tests prove to us that this device will give the regular inspector a superior tool which will work continuously and will "see" all.

To our knowledge, American Steel and Wire Division is the first wire rope manufacturer to recognize the possibilities of this electronic inspection device as an *extra* step in quality control that will assure better, more uniform wire rope.



AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL, GENERAL OFFICES: CLEVELAND, OHIO
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO • TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA., SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

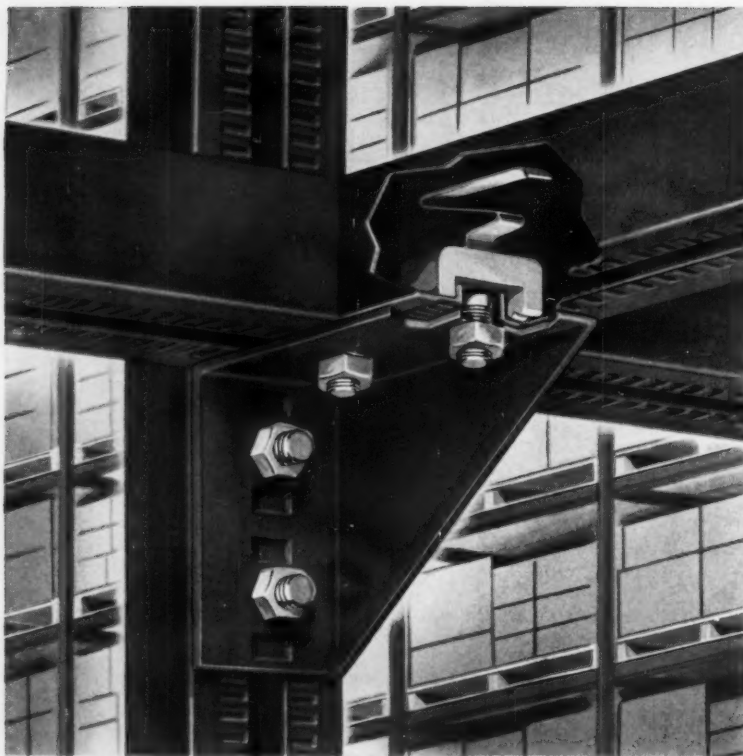
USS AMERICAN TIGER BRAND WIRE ROPE

Excellay Preformed



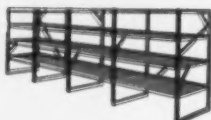
UNITED STATES STEEL

Circle No. 16 on Reader Service Card for more information



**For completely salvageable steel racks
of any size, any shape—**

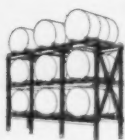
Mult-A-Frame It!



LATEST CONCEPT IN BOLTED CONSTRUCTION: new, fully-locking Bonderized steel frame with baked enamel finish, ideal for building pallet racks, scaffolds, storage bins, platforms, virtually anything.



NO WELDING, NO DRILLING, NO SCRAP: only tools needed to MULT-A-FRAME are a saw and wrench. As needs change MULT-A-FRAME can be adapted to meet new conditions. It's completely reusable.



CUTS LABOR, MAINTENANCE, STORAGE COSTS: no skilled labor needed to MULT-A-FRAME, no special care required to protect its rust-resistant finish. Eleven standard fittings build 95% of all MULT-A-FRAME units.

HOLD EVERYTHING!

FOR COMPLETE INFORMATION—send today for the MULT-A-FRAME illustrated brochure "Hold Everything".



MULT-A-FRAME DIVISION
Ainsworth Manufacturing Corporation
1471 East Atwater St., Detroit 7, Mich.

Circle No. 22 on Reader Service Card for more information

A list of material handling specialists (which FLOW keeps up to date) has been provided to reader Zang.

A Matter of Scaling and a Discerning Eye

To FLOW:

In the article, "Standardization Procedure for Flow Planning," in the March 1956 issue, on page 67, Figure 9 illustrates two storage bin layouts.

It would appear that some information relative to this system is missing. By scaling off with an ordinary rule, it would appear that the left-hand diagram has less storage space than the right-hand diagram, although the description given in the illustration indicates the opposite.

As similar problems come up in our warehousing of small parts, etc., and we use the parallel method of lining up our shelving, I would like to have this point clarified.

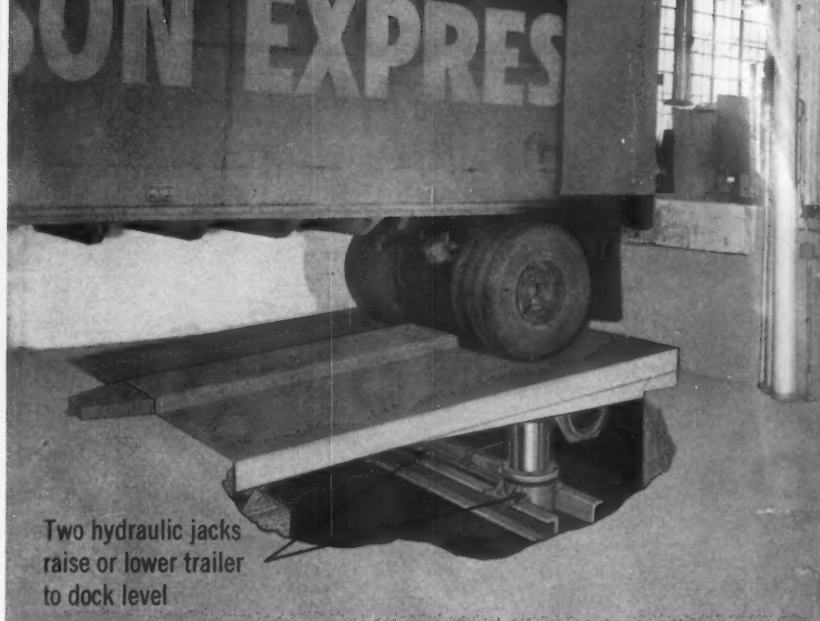
J. D. Shortall
Specialist—Operating Facilities
Planning
Wholesale Department
Headquarters
Canadian General Electric
Company Ltd.
Toronto, Canada

While the author correctly pointed out that such layouts should be made to scale, the artist who drew the finished drawing failed to heed these words. He distorted the original sketch just enough to reverse the capacity figures.

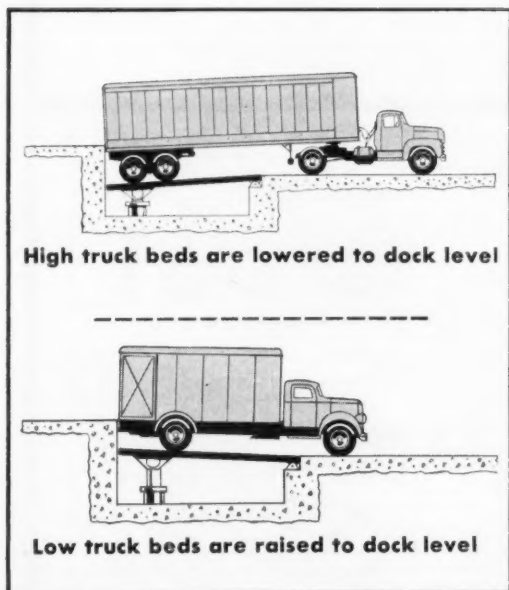
The original sketch showed the rooms shallower and wider. With this change in room shape, the parallel method of layout actually would afford less useable area.

The author did not advocate one type of storage over another. He merely pointed out that the layout should be drawn to scale so that the best method for any particular storage area may be employed.

NEW ROTARY Truck Leveler SAVES DOCK SPACE AND SPEEDS LOADING



Two hydraulic jacks
raise or lower trailer
to dock level



High truck beds are lowered to dock level

Low truck beds are raised to dock level

ECONOMICAL HYDRAULIC LIFT INCREASES EFFICIENCY

The new Rotary Truck Leveler, supported and moved by dual hydraulic jacks, raises or lowers the entire rear section of any highway carrier to bring the bed level with the loading dock platform. It has these important features:

Takes no space . . . installed in pavement in front of loading dock, leaving dock platform completely free of obstructions. Each Rotary Truck Leveler saves 96 sq. ft. or more of the building space required when a ramp is used.

Reduces to a minimum the incline angle between truck or trailer bed and dock. Materials handling equipment can move in and out with maximum speed and safety.

Handles any highway carrier at any loading dock. Has 40,000-lb. capacity and 28" travel. Will never be made obsolete by changes in materials handling equipment.

Dependable, economical push-button operation by Rotary Oilhydraulic electric power unit, located wherever convenient. Practically maintenance-free.

Easily installed in shallow pit at new or existing buildings. Does not interfere with closing and locking of overhead doors.

Raised center curb section guides wheels onto runways for fast, accurate truck positioning.

The Rotary Truck Leveler is sold and installed by a nationwide organization. These specialists in hydraulic lifting devices can assist you on design and specifications for single or multiple unit instal-

lations. Dependability of the Rotary Truck Leveler is assured by Rotary Lift Company's experience in building over 100,000 oil-hydraulic lifts and elevators. Mail coupon for complete data.

Rotary also makes Hydraulic Ramps, Lifts and Elevators



TRUCK LEVELER

Manufactured by ROTARY LIFT CO., Memphis 2, Tenn.

Specialists in oil-hydraulic lifting devices

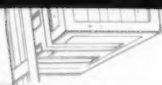
Circle No. 157 on Reader Service Card for more information

MAIL FOR TRUCK LEVELER CATALOG

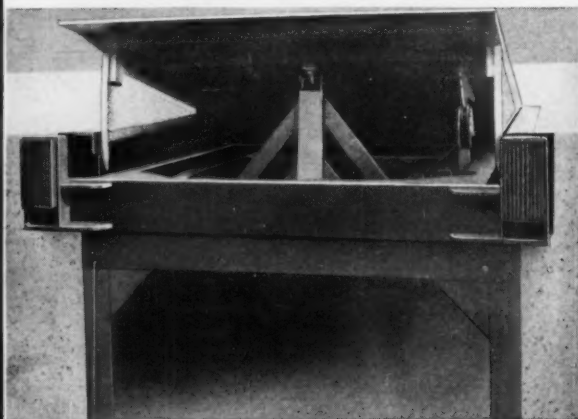
Rotary Lift Co.,
1164 Kentucky, Memphis 2, Tenn.
Please send new catalog on the Rotary
Truck Leveler to:

Name _____

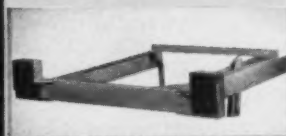
Address _____



**Steps up loading and unloading operations
... requires no manual attendance ...**



**ENGINEERED
FOR TOUGH SERVICE ...**



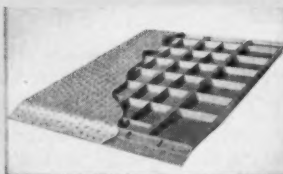
MOVABLE BUMPER



CENTER GUIDE FRAME



BASE FRAME



RAMP CONSTRUCTION

Rite-Hite is built all the way through with an *extra* measure of ruggedness to take the continual impact of heavy trucks. It is not affected by adverse weather conditions. The *entire* movable bumper assembly actuates the ramp—it can be hit by the truck from any angle without damage to bumper assembly or ramp mechanism. Supported and guided by anti-friction bearings, the bumper assembly functions smoothly and will not bind. The ramp lip is always protected because when the truck contacts the bumper the ramp automatically raises up out of the way. The ramp platform is *self-leveling* and easily supports 20,000 pounds at any point—center, side or lip.

Send for descriptive literature on the Rite-Hite Full Automatic Truck Ramp. Write to Dept. F-56.

RITE·HITE FULL AUTOMATIC **TRUCK RAMP**

completely truck-actuated

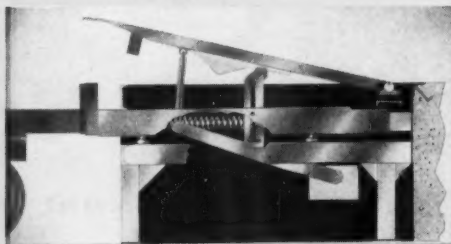
At loading docks equipped with Rite-Hite Full Automatic Truck Ramps, trucks are their own ramp tenders. The need for a man to handle the ramp is eliminated, delay is reduced to an absolute minimum. The faster truck "turn-around" means smoother flow of freight, less dock congestion.

simple counterbalance design

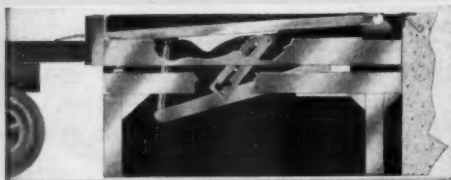
Both models 96A (recessed) and 96AU (self-contained) incorporate the *proved* Rite-Hite mechanical precision counterbalance. There are no cables, chains, pumps, valves, gears, motors or wiring to cause possible trouble and delay—Rite-Hite Full Automatic Truck Ramp is *maintenance-free*.



RAMP AT DOCK LEVEL



EXTREME UP POSITION



EXTREME DOWN POSITION

RITE·HITE
DIVISION

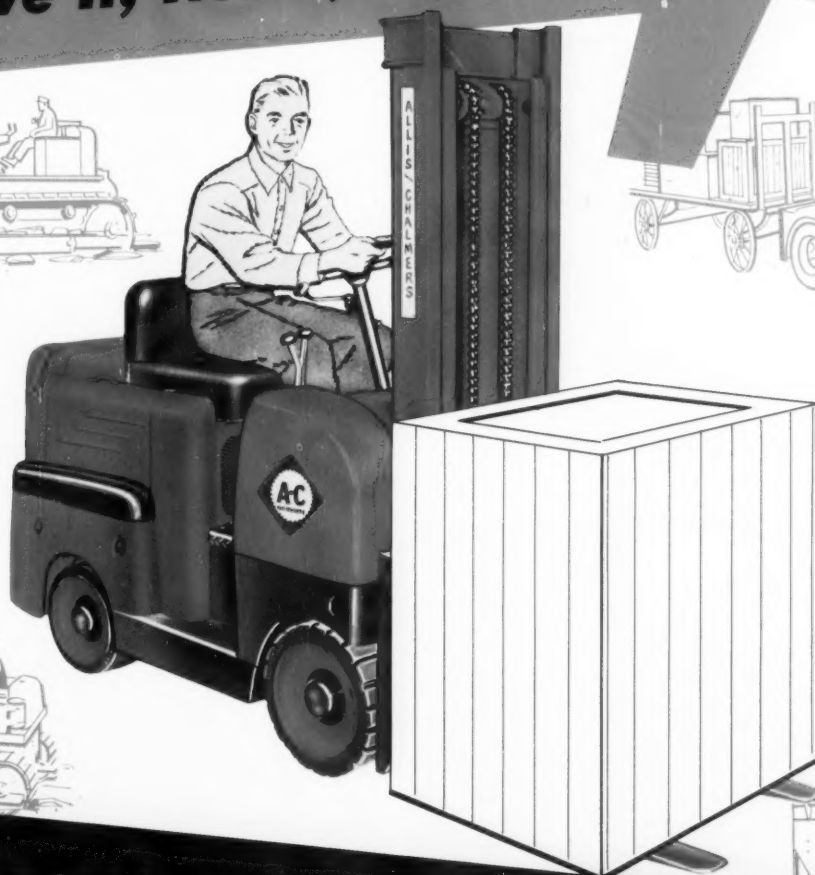
LOOMIS MACHINE COMPANY
133 FOURTH STREET, CLARE, MICHIGAN

SEE IT IN ACTION AT THE MATERIALS HANDLING INSTITUTE
EXPOSITION AT CLEVELAND IN
JUNE—BOOTH 806

Circle No. 106 on Reader Service Card for more information

Whether You Load It,

Move It, Tier It, Push It...



there is ALLIS-CHALMERS equipment

to do the job...

**Over a Century
in the Materials
Handling Field**

Model FT30-24
with Cushion Tires
(Capacity: 3000 lb at 24-in load center)



Modern
ALLIS-CHALMERS
Fork Trucks

Model FTP60-24
with Pneumatic Tires
(Capacity: 6000 lb at 24-in load center)





**Model FTD80-24
Diesel Powered
with Cushion Tires**

(Capacity: 8000 lb at 24-in load center)

for Every Requirement

Capacities range from 2,000 lb to 10,000 lb, with more than half a hundred different models to choose from. You have a choice of diesel, gasoline or LP gas engines—of the rugged industrial type, built by Allis-Chalmers for demanding lift truck service. You can have either conventional or torque converter drive, and solid, cushion or pneumatic tires.

... ALL BUILT TO SAVE

The Allis-Chalmers fork truck is fast, maneuverable and extremely easy to operate. Even an inexperienced operator, anybody who has driven a car, can start cutting material handling costs with it almost immediately. It starts instantly with a dashboard push button; steers easily with a large, comfortably positioned wheel; uses automotive-type clutch, brake and accelerator pedals and even shifts like a car with the lever mounted on the steering post.

Large, clean floor area is free of levers and other obstructions. There is nothing to trip over... nothing to distract the operator from his job... *everything* is designed to help him get more production.

... AND BUILT TO LAST

We invite you to inspect a new Allis-Chalmers fork lift truck. Notice the many refinements in its design... how its features include improvements for operating efficiency and servicing ease, as well as extra long service life and low-cost maintenance.

One look will convince you—

ALLIS-CHALMERS IS IN THE MATERIAL HANDLING BUSINESS!

FOR HAZARDOUS AREAS—The Allis-Chalmers Safety Fork Truck was developed for chemical plants, arsenals, feed mills and other areas where a spark could touch off an explosion. Its diesel engine has no ignition system; all other electrical devices have been removed. The horn operates on compressed air, starter is hydraulic and the gauges are mechanical. As further safeguards, the manifold is water-cooled, the exhaust passes through a water quench, tires are grounded—even the forks are spark-proof bronze alloy. It has been approved by Mill Mutual Fire Prevention Bureau, Chicago.



**NOW...
A Fire-
Safe
Fork
Truck**

THESE ATTACHMENTS BROADEN THE USEFULNESS OF ALL ALLIS-CHALMERS FORK TRUCKS



Crane Arm



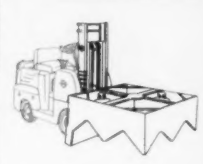
Hydraulic or
Mechanical Scoop



Side Shifter



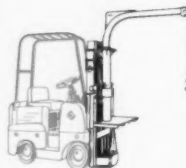
Revolving Carriage



Multiple Drum Carriage



Dual Telescopic Mast



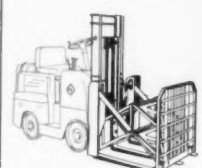
Cotton Boom



360° Rotating Carriage
and Clamp



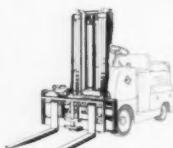
Ram



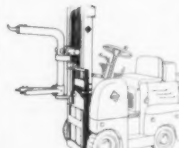
Unloader



Brick and Block Forks



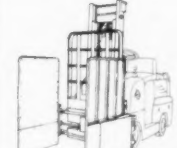
Swing Shift



Garrett Breakout



Load Stabilizer



Carton Clamp



Extension Package Rack

BUILT TO ORDER In addition to the standard attachments shown here, there are many more. Allis-Chalmers will be happy to work with you, also, on special attachments to meet your own particular materials handling needs.



Clamps



PLATFORM TRUCKS—CHORE BOY trucks are available in 2,000-lb and 3,500-lb models with 13-hp, 2-cylinder air-cooled engines. Large deck space permits easy stacking of bulky loads and long bar stock. Ideal, too, for LCL freight house, millwright, package distribution and many other types of materials handling.



INDUSTRIAL TRACTORS—SHOP MULE tractors are available in sixteen sizes with drawbar pulls ranging from 2,400 lb to 13,000 lb—with a choice of Allis-Chalmers diesel, LP gas, or gasoline engines. These compact, highly maneuverable units are ideal for all industrial pushing and hauling jobs.

CHORE BOY and SHOP MULE are Allis-Chalmers trademarks.

Answers To Many Handling Needs



WHEEL TRACTORS—The WD-45 (shown) has 40 drawbar hp and travels up to 11.25 mph. Has backhoe and may be equipped with front-end loader or dozer blade. The 26-drawbar-hp CA tractor also travels at speeds up to 11.25 mph. The 18-drawbar-hp 1B tractor can be used for drawbar work or with mounted sickle mower, loader, broom or snowplow. It turns in 7-ft radius... is only 4½ ft wide and 8 ft long.

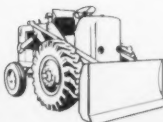


TRACTO-LOADERS—For fast, efficient handling of bulk materials indoors or out, your Allis-Chalmers construction machinery dealer offers a complete line of Tractomotive Tracto-Loaders. Sizes range from the ½-yd TL-6 to the 1½-yd TL-12. All are equipped with torque converter drive. Special attachments are available to increase the versatility of these units.

Crane Hooks
2,000 to 5,000 lb



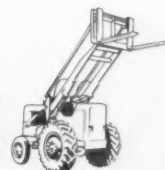
Dozer Blades
For TL-10
and TL-12

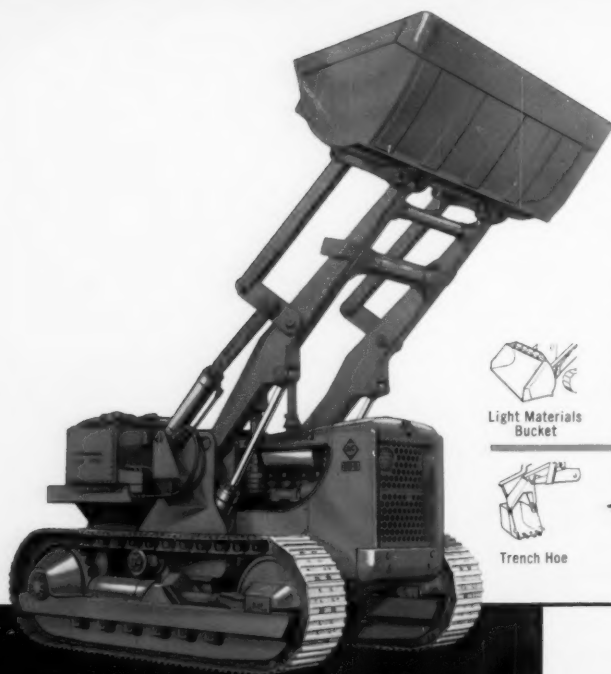


Light Materials
Buckets Up to
2 cu yd



Lift Forks
Stacking Heights—
5 ft, 6 in to
9 ft, 8½ in





TRACTOR SHOVELS—For handling heavy or bulk materials, tough digging and loading jobs, there are four sizes of Allis-Chalmers crawler tractors with front-end shovels. Sizes range from 55 belt hp to 204 net engine hp, bucket capacities from 1½ to 4 cu yd . . . light materials buckets up to 7 cu yd. Interchangeable attachments greatly increase their versatility.



Light Materials Bucket



Rock Bucket



Drag Bucket



Bulldozer Blade



Angledozer Blade



Trench Hoe



Tine Fork



Rock Fork

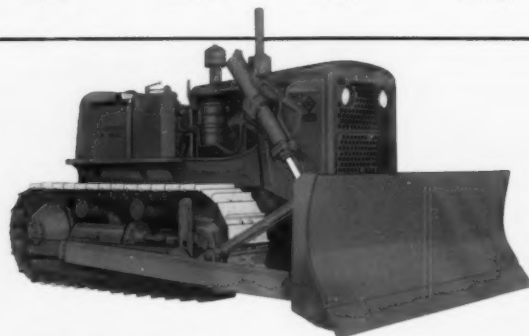


Crane Hook



Lift Fork

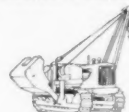
Here's Big-Capacity Handling Ability...



TRACTORS, DOZERS—Four models of Allis-Chalmers crawler tractors equipped with hydraulic or cable-controlled angled or straight blades, maintain stockpiles, handle yard maintenance and construction work. They are also used for heavy drawbar work such as pulling scrapers, logging arches or carts. Other mounted attachments include winches, cranes and side booms.



Winches and Cable Control Units



Cranes and Side Booms



Logging Arches and Carts



ALL-ROUND PLANT WORKER—The Model D motor grader is ideal for yard and road maintenance and light construction. Its usefulness is multiplied by a ¾-cu-yd rear-mounted loader. Scarifier and V or blade-type snowplow contribute to its almost unlimited versatility. Optional equipment includes leaning front wheels, power circle turn and all-weather cab.

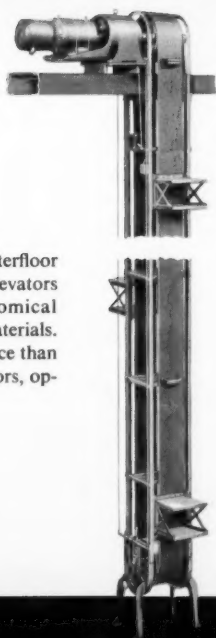
MOTOR SCRAPERS AND MOTOR WAGONS—Two models of each, with capacities up to 20 cu yd, provide a means of moving large quantities of material fast and economically. These rubber-tired units travel at speeds up to 22 mph. Scraper bodies may be interchanged with rear or bottom-dump wagon bodies.



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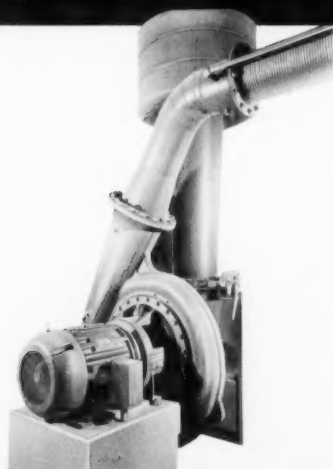
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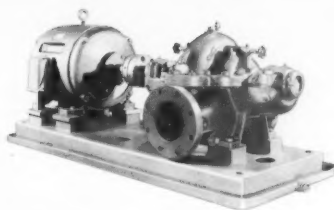


ELEVATORS—For fast interfloor transportation, service elevators provide for safe, economical movement of men and materials. They require less floor space than stairways or freight elevators, operate for pennies a day.

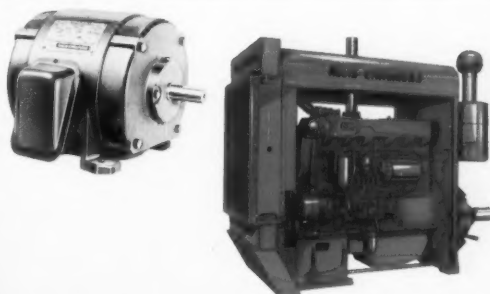
More Equipment For Efficient Handling



CENTRIFUGAL AND AXIAL BLOWERS built by Allis-Chalmers include equipment to meet all industrial air and gas-handling requirements. Capacities range from 1400 to 1,000,000 cfm, for pressures up to 2500 psig or higher.

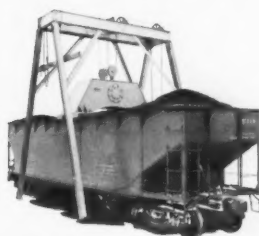


PUMPS—Whether the need is for a pump for handling clean liquids, corrosive or abrasive liquids, or liquids containing suspended solids, there is a pump in the Allis-Chalmers diversified line to meet that need.

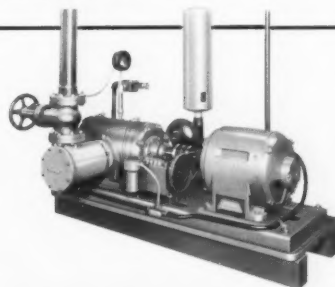


MOTORS for powering conveyors, overhead cranes and loaders of all types. Allis-Chalmers builds a complete line of polyphase squirrel-cage and wound-rotor motors available with electrical and mechanical modifications to meet a wide variety of applications. Also builds motor control and the world's broadest line of constant and adjustable speed V-belt drives.

ENGINES AND POWER UNITS—Rugged Allis-Chalmers industrial engines and power units are ideal for powering cranes, portable conveyors and yard equipment of various types. Your choice of fuel—accessories and attachments to fit the application.



CAR SHAKER for fast, safe unloading of hopper-bottom gondola cars. This motor-driven vibrating shaker quickly loosens damp, wet and compacted materials. Fits all U.S. standard hopper-bottom cars.



COMPRESSORS AND VACUUM PUMPS of the rotary, sliding-vane type are, for pneumatic conveying and other industrial uses, built for capacities from 42 to 3245 cfm with pressures to 50 psig single stage, and for 250 to 1807 cfm, 60 to 125 psig two stage. Vacuum pumps for vacuums to 29.7 in. Hg.

here are **3** good reasons why you can rely on **ALLIS-CHALMERS** Materials Handling Equipment

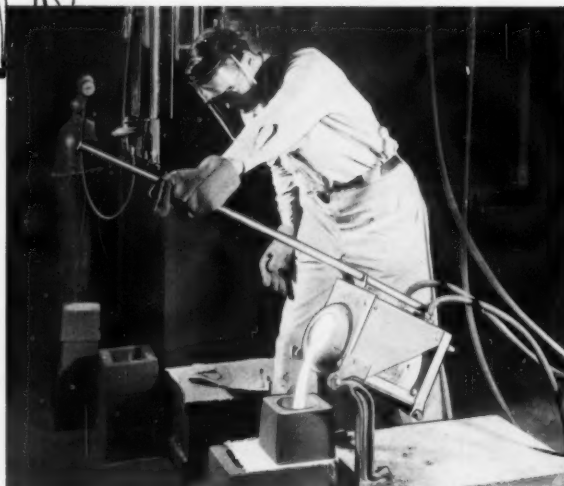


1 KNOWLEDGE OF YOUR NEEDS

In Allis-Chalmers plants millions of tons of materials are handled every year. With all this handling of materials, Allis-Chalmers has learned the importance of efficient material handling in order to reduce operating costs and effect production savings. Thus, Allis-Chalmers has a thorough, firsthand knowledge of requirements and an understanding of your needs.

2 RESEARCH THAT LEADS THE WAY

A large staff of scientists and technicians... working in the many physical, chemical, electrical and metallurgical laboratories... is constantly probing for better materials and methods for material handling equipment that will serve you more profitably. It's research that leads the way to better products for you!



3 MANY MODERN, LARGE- SCALE MANUFACTURING FACILITIES

Seventeen plants located in the United States, Canada and England, each equipped with modern production facilities, carry on where research and engineering leave off. In these plants Allis-Chalmers has for over a century been manufacturing and developing material handling products, construction and farm machinery, electrical and power equipment, and many useful products that serve you efficiently, improve production and make for better living. Part of the many modern products made include the material handling trucks and equipment shown on these pages which have broadened the Allis-Chalmers line in this important material handling field.

Looking toward the future, Allis-Chalmers is making product improvements which will bring you advanced equipment for better production.



ALLIS-CHALMERS

BUDA DIVISION, MILWAUKEE 1, WISCONSIN



Printed in U.S.A.

NEWS

from the

SALES FIELD



Wm. Johansen of magnesium materials handling equipment. The territory covered by Manufacturers Aids includes Rockford, LaSalle and Kankakee in Illinois, as well as the Chicago metropolitan area and Lake County in Indiana. Manufacturers Aids Company is headed by **William Johansen**, who has been associated with the sale of magnesium products for many years. Until recently, Johansen served as vice president in charge of sales for the Magnesium Company of America.

Lawrence E. (Larry) Hillis, of the newly-formed **Hillis Equipment Company**, has opened his sales, service and engineering offices at 6535 Carnegie Ave., Cleveland 3, Ohio. Following are current staff members: **Harold W. Wynn**, sales manager; **Ronald W. Carr**, office manager; and **William R. Blommel**, district representative.

Howard L. Meyer, general manager of the **Jervis B. Webb Company of Georgia**, located in Atlanta, announces that several sales representatives formerly attached to **Jervis B. Webb Company**, Detroit, Mich., have been reassigned to



Powered to Outperform,
Engineered to Outlast,
any other Sweeper

THE ONLY POWER SWEEPER ENGINEERED TO GET FLOORS DINNER-TABLE-CLEAN

A demonstration will prove that now you *can* get what you have always wanted in a power sweeper.

No other power sweeper gets floors so clean... so fast. No other sweeper cleans so close to machinery and equipment. No other is so easy to operate.

Big claims? Yes, indeed. But... a demonstration in your plant will prove them true.

If you are interested in having a cleaner plant, better looking floors, dust-free shelves and machinery, you should be interested in actually SEEING what the new Wayne Power Sweeper

can do FOR YOU! Ask for a demonstration by filling in coupon below, now.

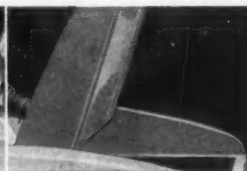
Advanced Features of the New Wayne Power Sweeper

Automotive Type Steering for better maneuverability...Hydraulic Dumping...Filter-Vac Dust Control...More Efficient Brushes...Faster Operating Speeds...Better Design...More Power (Model 606 shown has about twice the horsepower of any other sweeper)
Four sizes for every need, electric, gasoline or LP gas operated.

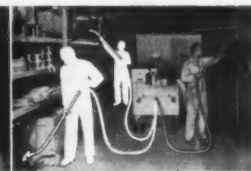
DEALER INQUIRIES INVITED



Power Dumping, hydraulically operated from driver's seat.



Filter-Vac Dust Control. No dust bag to empty.



Vacuum Attachments for cleaning shelves, machinery, etc.



WAYNE MANUFACTURING CO.

1214 E. Lexington Avenue, Pomona, California

- ☐ Please arrange for a demonstration.
- ☐ Please send me literature on Wayne Power Sweepers.

Name _____

Title _____

Company _____

City _____ Zone _____ State _____

World's Largest Producer of Power Sweepers for Cities and Industry
Circle No. 187 on Reader Service Card for more information

Circle No. 29 on Reader Service Card

first choice for **INDUSTRIAL TRUCKS** **... CONTINENTAL** **RED SEAL POWER**

Clinch maximum power and smoothness, longest engine life, lowest fuel, oil and upkeep cost—**HIGHEST SATISFACTION**—by choosing the industrial truck with dependable Continental power.

DIESEL • GASOLINE • LPG



Conversion of existing gasoline units to LPG is simple, quick and inexpensive.

Ask about it
where you bought
your truck.

Continental Motors Corporation

MUSKEGON • MICHIGAN

8 EAST 45TH ST., NEW YORK 17, NEW YORK • 3817 S. SANTA FE AVE., LOS ANGELES 54, CALIF.
8219 CEDAR SPRINGS ROAD, DALLAS 9, TEXAS • 1232 OAKLEIGH DRIVE, EAST POINT (ATLANTA) GA.

Circle No. 39 on Reader Service Card for more information

SALES FIELD

Continued

the Georgia firm. **Sam Ledbetter**, formerly a manufacturer's agent representing Webb, has been appointed a District Sales Manager with headquarters in the Atlanta office. **A. E. Green** is district sales manager of the Charlotte, N. C. office. **Frank Hoenigmann** is district sales manager of the Jackson, Miss., office. In addition, the Towne Industrial Equipment Co. represents the Webb Company of Georgia in the Dallas, Texas, sales area.

Appointment of **Donald E. Black** as Sales Training Manager for Acme Steel Company, Chicago, has been announced by **G. Findley Griffiths**, vice president of sales. **Donald E. Black**

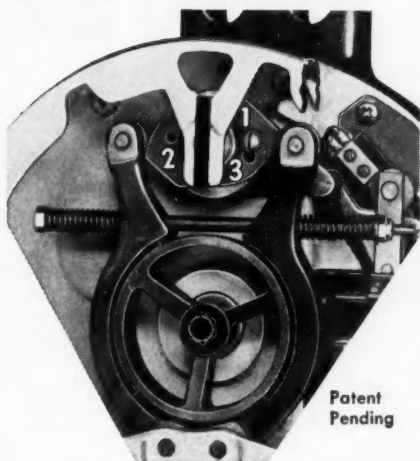


Black was formerly Manager of the Customer Service Department. In his new position, he will be responsible for company-wide planning and coordination of the sales training function.

Harold E. Moon, material handling salesman and sales executive, has been appointed manager of the Cincinnati Sales and Service Branch of The Yale Material Handling Division, Yale & Towne Manufacturing Company. Other Yale appointments include: **J. Russell Manning**, formerly Cincinnati branch manager, to manager of Detroit Sales and Service Branch, serving the Lower Michigan Peninsula; **Richard H. Marsh**, Abbington, Pa. to Worksaver and Warehouser Sales Manager of the Material Handling Division; and **Fred E. Rau** to the newly created post of Assistant Hoist Sales Manager at Yale's Philadelphia headquarters.

ACCO
products

The WRIGHT Hoists for Dependability



Nothing to adjust but the cam!

Here's your assurance of maximum hoist service—minimum downtime. Adjustment of this cam-actuated brake to compensate for brake lining wear is simple as ABC.

When excessive load hook drift occurs...remove the screw shown at Position 1 (see picture), swing the cam until Position 2 is in line and replace the screw. That's all there is to it. For the final third of brake lining wear, set the cam at Position 3.

This is the only adjustment required. Brake springs and solenoid are factory-set and never need adjustment.

for complete information on WRIGHT Hoists and Crane components ask for:

Speedway Hoists: (Frame 1) Booklet DH133B, (Frame 2 & 3) Catalog E55A • **Motor Driven Cranes:** Underhung, Single Bridge, Bulletin #227; Top Running, Bulletins #DH448 or DH449 • **Crane Drive Units:** Booklet DH-431A • **Hand Traveling Cranes:** Bulletins #DH-469 and #DH-438A

Write our YORK, PA., office
Circle No. 9 on Reader Service Card



ACCO



**Wright Hoist Division
AMERICAN CHAIN & CABLE**

York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York,
Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

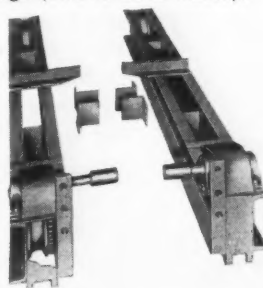
HOISTS, CRANES AND DRIVE UNITS TO FIT YOUR OPERATION

WRIGHT *Speedway* Hoists are designed to meet the many and varied demands of modern high speed production.

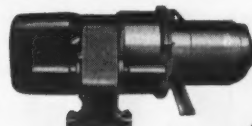


They are available in Frame 1, 1½, 2 and 3 sizes with capacities from ¼ to 10 tons.

WRIGHT B-514 Crane End Trucks are constructed of structural steel-welded steel channels equipped with heavy channel diaphragms. Truck wheels are equipped with Timken Tapered Roller Bearings (two to each wheel).

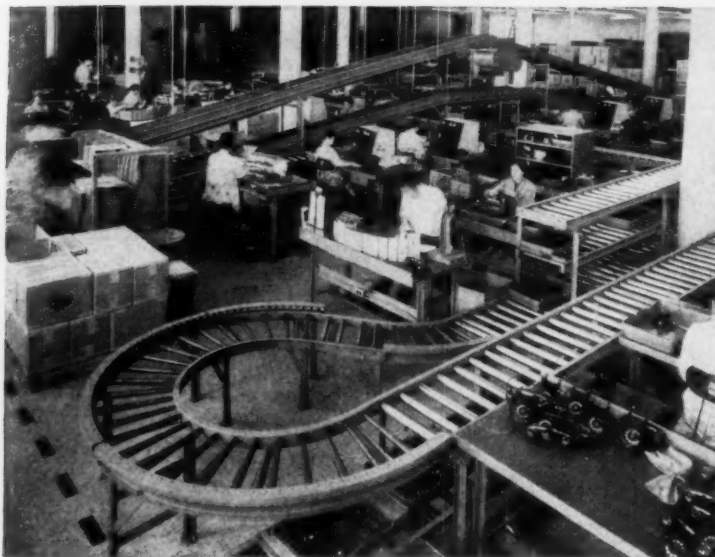


WRIGHT Crane Drive Unit consists of an electric motor with a fluid coupling transmitting power to a well proportioned gear reduction. It is designed for crane and double-beam trolley propulsion and similar intermittent duty reversing applications.



**Better
Value**

Very Few CONVEYING PROBLEMS are New to Us . . .



A typical system of Mathews gravity and power conveyers and special conveying machinery, designed to create a continuous flow of material in modern manufacturing plants in the United States and Canada.

Every day some manufacturer runs head-on into a conveying problem that's new to him . . . a handling job that he hasn't had to do before. It may be a package of unusual size or shape, or there may be unusual characteristics regarding space, temperature or weight.

Whatever the problem might be, chances are, we've done something like it, somewhere, sometime before.

That's where experience pays off, and you get the benefit of fifty years of it when you buy Mathews Conveyers.



MATHEWS CONVEYER COMPANY

GENERAL OFFICES . . . ELLWOOD CITY, PENNSYLVANIA

PACIFIC COAST DIV., MATHEWS CONVEYER COMPANY WEST COAST,
SAN CARLOS, CALIFORNIA

CANADIAN DIVISION . . . MATHEWS CONVEYER COMPANY, LTD.
PORT HOPE, ONTARIO

Engineering Offices or Sales Agencies in Principal American and Canadian Cities.
Export Representative—Foreign Trade Division of New York Hanseatic Corp.

MATHEWS

Circle No. 120 on Reader Service Card for more information

The Frank G. Hough Co., of Libertyville, Illinois, has appointed **Ralph E. Zimmerman** as district representative of a territory covering the states of New York and Pennsylvania, excluding the New York City and Philadelphia areas.



R. Zimmerman

C. E. Thyng, New England Branch Manager of the **Fairbanks Company**, has appointed **John H. Collamore** to the Rhode Island sales territory. In his new assignment, Collamore will assist **S. G. Redfield, Jr.**, and work out of the firm's Boston Branch Office and Warehouse.

A new material handling equipment sales and engineering office was opened March 1st by **Food Machinery and Chemical Corporation** at 875 Stevenson St., San Francisco. Personnel recently affiliated with the office include **Harry Harlick** and **Charles O'Malley**.

Mercury Manufacturing Company has named the **F. H. Bathke Company** as its sales and service representative for Minnesota and Western Wisconsin. The company maintains offices and warehouses in St. Paul and Hibbing, employing six salesmen in the Twin Cities area, three in the Hibbing area, and one in Mankato.

A new fork lift truck rental service is being offered to Mid-South firms by **Fork Lift Truck Rentals, Inc.**, announces the **Grady W. Jones Company**. It is now possible for firms to rent lift trucks on a minimum daily, weekly, or monthly basis

TRACTOMOTIVE TL-10 TRACTO-LOADER

Capacity — 1 cu yd
Horsepower — 63
Reach — 2 ft, 7½ in. (at
8-ft dumping clearance)
Weight — 11,700 lb



... in this low carry position the load is "tucked in" close to the cowl.

LOW CARRY ... SHORT TURNING ... HIGH LIFT

More output on every materials handling job

You can scoop up a heaping load and carry it low without spilling with the Tractomotive tip-back bucket. In this low carry position, the load is "tucked in" close to the cowl for better balance and visibility ... easier maneuvering. Short turning radius enables the TL-10 to turn from a 9-ft aisle into a 10-ft bin without jockeying. It easily loads into high dump bodies or hoppers ... and there's *extra long reach* because tires do not extend ahead of cowl. But these are just a few of many TL-10 advantages.

Hydraulic torque converter drive lets you crowd steadily

into the pile — engine torque is multiplied three times. Tip-back feature gives a scooping action that fairly tumbles material into bucket. With clutch-type transmission, you pull a lever and move away from the pile on the double without time out for shifting. Reverse is almost twice as fast as forward. Bucket over drive wheels utilizes weight of loaded bucket for greater traction while it eases weight on rear wheels for easier steering.

Make an appointment for a demonstration. See how these big-production features will help you increase output.

SOLD AND SERVICED BY YOUR ALLIS-CHALMERS CONSTRUCTION MACHINERY DEALER

Send for Free Descriptive Catalog on
the Complete Line of Tracto-Loaders

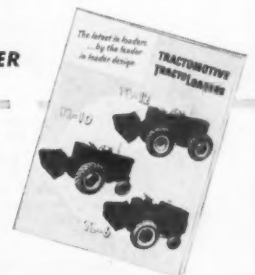
TRACTOMOTIVE

TRACTOMOTIVE CORPORATION • DEERFIELD, ILLINOIS
Circle No. 178 on Reader Service Card

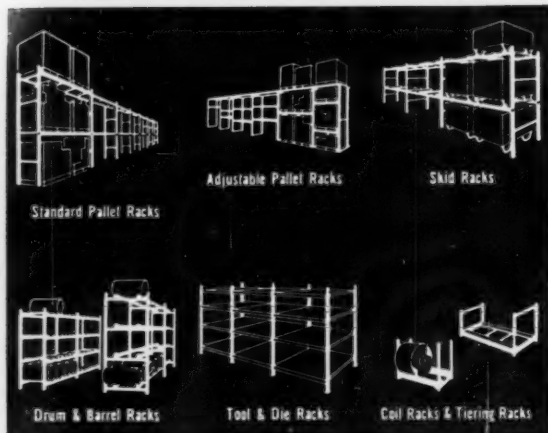
TRACTOMOTIVE CORP., Dept. FL
Deerfield, Illinois

- ☐ Please arrange a demonstration
of TL-10.
☐ Send Catalog.

Name
Title
Company
Address
City State



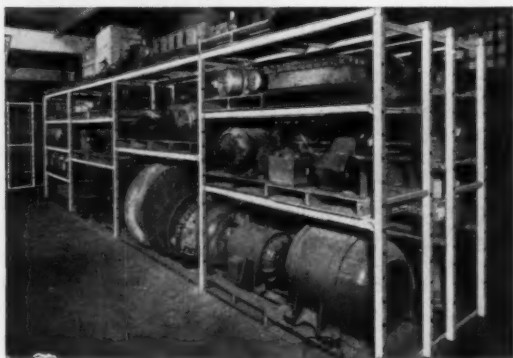
BUY "American" FOR BETTER STACKING and most economical storage!



AN EXCLUSIVE
AMERICAN FEATURE
Patent No. 2,654,487

There's an American Storage Rack for every storage need

Industry is buying more American Racks than ever before, because no other stationary or portable racks can match American Rack features. For cutting installation and materials handling costs, you can't beat American. Make us prove this fact! Send for Illustrative Catalog!



AMERICAN ADJUSTABLE
PALLET RACK installation
at Socony-Vacuum Oil
Co., Inc.

AMERICAN METAL PRODUCTS CO.

STORAGE RACK DIVISION

5959 Linsdale • Detroit 4, Michigan

amp PLANTS AND SUBSIDIARIES: (American Metal Products Co.—Detroit, Michigan—Union City, Tennessee) (AllianceWare, Inc.—Alliance, Ohio—Kilgore, Texas—Colton, California) (Borroughs Manufacturing Co.—Kalamazoo, Michigan) (General Spring Products, Ltd.—Kitchener, Ontario, Canada) (Tube Reducing Corp.—Wallington, New Jersey)

Manufacturers of quality products for automobiles, trucks, aircraft, offices, factories, warehouses, and homes.

Circle No. 11 on Reader Service Card for more information

SALES FIELD

Continued

and pay on the basis of actual hours used, says **Grady W. Jones**, president. The address of the rental firm is 1088 Union Avenue, Memphis 3, Tennessee; phone BRoadway 6-6834.

Appointment of **Porter B. Clapp** as sales representative for the Steel Strapping Division to work out of the Chicago office, has been made by



John C. McGunnigal, sales manager of the Steel Strapping Division of The Stanley Works, New Britain, Conn. Previous to coming to Stanley, Clapp was sales engineer with the Earl Elwyn Smith Association of West Hartford, Conn., and a buyer with the Spencer Turbine Company of Hartford.

Philip C. Strine has been named Manager of Eastern Sales for the Container Division of International Paper Company, announces **Arthur B. Damon**, General Manager of the Division. **Robert D. Jolley** is to replace Strine as Manager of the Wooster, Ohio plant.

Goodyear Tire & Rubber Company has recently made the following appointments: **J. W. Smith** will be Eastern Sales Manager of the Industrial Products Division, replacing **O. A. Schilling**, who was promoted recently to Manager of Industrial Products by the division.

J. L. Sinclair, manager of the Industrial Products Division office at Cleveland, Ohio, is being transferred to the Chicago district as manager. Replacing Sinclair at Cleveland will be **R. J. Ario**, who has served as Charlotte, N. C., district manager since 1952.



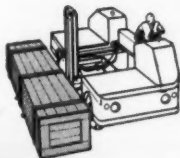
Now **BIG** loads handled efficiently by **ONE MAN** with **ONE** machine **Baker Traveloader**

The labor, time and money-saving role played by industrial trucks throughout industry has long been recognized. But until now, there were no available methods or equipment for satisfactorily applying them to extremely long, bulky or awkward loads. Now comes the Baker TRAVELOADER, designed for just this purpose. The TRAVELOADER is essentially a fork truck that lifts loads from the side. But that's not all. It also places the load securely on the truck

deck, where weight of load is distributed over two axles and six wheels. In this position, it can deliver the load any distance to its destination, over inside-the-plant aisles, improved or semi-improved roadways, or over highways at speeds up to 30 MPH. And it can load, unload or stack loads—regardless of their length—to a height of 12 feet, from aisles no wider than 10 feet. It is **THE ONLY ONE MACHINE THAT DOES ALL THIS WITH ONE OPERATOR!**

Write for Descriptive Bulletin No. 1360

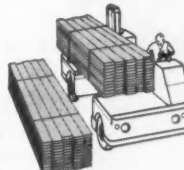
**ONLY
TRAVELOADER...**



Picks up
like a
straddle truck



Delivers
like a
highway truck



Stacks
like a
fork truck

Baker®

handling equipment

THE BAKER-RAULANG COMPANY

1219 WEST 80th STREET • CLEVELAND 2, OHIO

A subsidiary of Otis Elevator Company

See Baker Trucks in action at the MHI Show, June 5-8

Circle No. 24 on Reader Service Card for more information

671



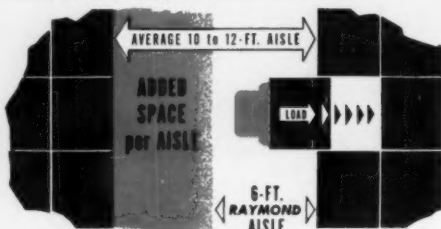
This is Boarding House Reach™

ONLY THE

RAYMOND

Reach-Fork HAS IT!

WHAT IT DOES The Raymond Reach-Fork enables you to install 6-ft. aisles in your warehouse right now! For the first time, there's no need for special racks or pallets. Using existing equipment, you can increase storage capacity as much as 50%.



HOW IT WORKS The Reach-Fork operates from the aisle . . . it does not straddle the bottom pallet like other narrow-aisle tiering trucks. Its forks reach right into the storage rack to pick up or deposit your load. Forks reach out a full 24" and back in seconds.

OTHER ADVANTAGES The Raymond Reach-Fork can be used on low-capacity elevators and floors due to its light weight. Ideal for loading motor truck trailers and boxcars too . . . because it stacks pallets closely, elevates 41" without increasing overall height. Equipped with new Raymond Power Unit that opens like a book for fast, easy servicing.

RAYMOND REACH-FORK
Electric Tiering Truck.
Capacities: 2,000 & 3,000 lbs.

ELECTRIC INDUSTRIAL TRUCKS • HYDRAULIC ELEVATING EQUIPMENT

Visit Booth 1122,
Material Handling
Show,
Cleveland, June 5-8

**SEND
FOR
BULLETIN**

The RAYMOND CORPORATION

3333 Madison St., Greene, N.Y.

- () Please send me latest Reach-Fork Bulletin.
() Please have a Raymond representative call.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

Circle No. 150 on Reader Service Card for more information

SALES FIELD

Continued

Jack Bradt has been named Sales Manager of the Truck Division of the Howe Scale Company by Richard F. Straw, vice president in charge of sales.



In his new position, Bradt will be responsible for the sale and distribution of the company's Truck Division. He came to Howe from The Safety Car Heating and Lighting Co., which, in January of this year, acquired the Howe Scale Co. Bradt had been doing market research and development work.

Jack Bradt

The John Morrell Manufacturing Company, of Elgin, Ill., has appointed Robert V. Thoren its Chicago representative. Prior to the appointment of Thoren, sale of the company's 2000 pound Morlift fork truck was handled directly from the company's home office. He will augment his sales program by appointing distributors in this area.



Robt. V. Thoren

The Paltier Corporation has appointed Albion-Allen and Robert Schuler as Chicago Distributors for the complete line of Paltier products.

Twin City Equipment Company of New Philadelphia, Ohio, has been appointed Industrial Sales Distributor by the Kwik-Mix Company for the Moto-Bug, a power wheelbarrow designed for low-cost material handling work. Twin City Equipment is located at 1184 Tuscarawas Ave.

(Continued on page 146)

Why Buy Special Containers?
... USE THE ONES YOU HAVE
 and get controlled dumping

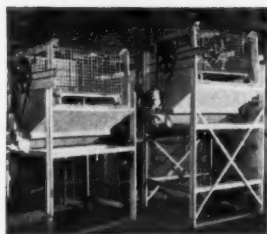


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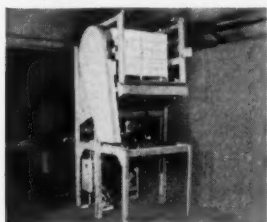
PS BOX Rotor DUMPER

Item No.
C-1390

PATENT
APPLIED
FOR



Built to height and other dumping dimensions.



Shows electrically operated dumper handling wooden box.

This cost-reducing dumper can be designed to handle any size box, old or new, wire, steel, wood or combination. Can also be designed to handle several different sizes of containers within the same cradle. It's so simple to operate, so easy to control the flow of parts to the feeding tray or convenient disposal onto table, conveyor, etc.

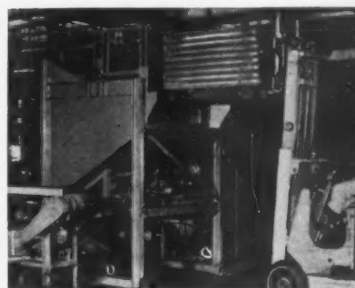
This ultra-modern dumper is built to specifications—of heavy duty, all steel reinforced welded construction. Manual, electric or air operated. Write for literature number P-10 for complete information.

DESIGNED AND MANUFACTURED BY

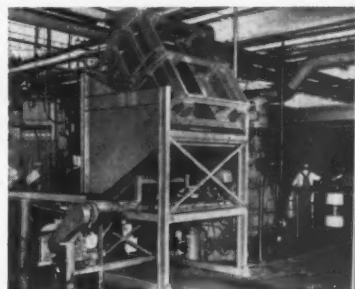
Palmer Shile Co.
 16012 FULLERTON AVE., DETROIT 27, MICH.

126 Dartmouth St., BOSTON 16, Mass., Commonwealth 6-0570 • 1209 Burlingame Ave., BURLINGAME, Calif., Diamond 2-0823 • 612 N. Michigan Ave., CHICAGO 11, Ill., Michigan 2-7407 • 857 Leader Bldg., CLEVELAND 14, Ohio, Superior 1-3235 • 3301 Walnut St., DENVER 5, Colo., Alpine 5-3984 • 202 Genesee Bank Bldg., FLINT, Michigan, Cedar 8-6881 • 525 W. Jefferson, FORT WAYNE, Indiana, Eastbrook 2816 • 835 No. Capitol Ave., INDIANAPOLIS 4, Indiana, MEtro 5-2587 • 6440 Fleet St., LOS ANGELES 22, Calif., RAYmond 3-3733 • 5107 Columbia Ave., ST. LOUIS 9, Mo., PRospect 1-1474 • 199 Main St., WHITE PLAINS, N.Y., White Plains 6-1354.

Circle No. 87 on Reader Service Card for more information



LOAD any type box on dumper cradle.



CRADLE is operated manually, electrically or by air.



CONTROLLED flow of materials to feeding stand, tray, table or conveyor.

NEWS

TRENDS

VIEWS

ELWELL-PARKER CELEBRATES 50th ANNIVERSARY

The Elwell-Parker Electric Company, Cleveland, Ohio, this year marks its 50th anniversary of industrial truck production. Originally founded in 1893, the company produced its first industrial truck in 1906. (The original truck remained in service until recent years and is now on permanent exhibition at the Henry Ford Museum, Greenfield Village, in Dearborn, Mich.) Prior to that time, the firm had been engaged in the design and manufacture of electric motors and generators used on overhead cranes and electric automobiles. Over the ensuing years, the company has continually introduced many new trucks and truck handling devices. Today, Elwell-Parker is headed by Sheldon K. Towson, son of the founder, and has 500 employees, while its sales representatives cover 48 states and 30 foreign countries.

PACKAGE DESIGN UNIT FOR CANADA

Rolph-Clar-Stone Limited, Toronto, recently opened a Package Design Unit, according to President F. Grenville Rolph. The Unit, claimed to be the first of its kind in Canada, incorporates all services needed for a complete packaging program, and will be under the supervision of Clair Stewart, Rolph-Clark-Stone director of creative planning, and a director of the company.

LITTLE GIANT GETS GRIPPER ARMS

Little Giant Products, Inc. has been awarded an exclusive license to manufacture and sell the multi-purpose gripper arms for lift trucks, covered by patents of Shell Development Company. Featuring camber to support the load and toe-in at the tips to grip the load, the arms formerly were produced by Rheem Manufacturing Company. They will be manufactured in Little Giant's Peoria plant, and sales will be handled through lift truck manufacturers and their dealers.

L. A. YOUNG BUYS WOODSIDE POWER LOADER

L. A. Young Spring & Wire Corporation has purchased the assets of the Woodside Power Loader Division of Woodside Industries in Milwaukee. N. D. Ely, president of the Young firm, said the purchase price, together with initial product development expenditures, involve an investment of approximately \$500,000. Manufacturing operations will be transferred at a future date to L. A. Young's Daybrook Hydraulic Division at Bowling Green and Upper Sandusky, Ohio.

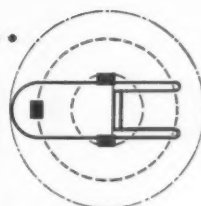
MID-WEST METALLIC FORMS MATERIAL HANDLING UNIT

Mid-West Metallic Products, Inc., of Cleveland, has formed a material handling division with T. R. Mutto as manager. It will produce the entire line of aluminum shipping containers now being manufactured by the Mutto Mfg. Co., of Canton, Ohio. L. E. Clezen is president and general manager of the firm.



This rear-drive L-S electric truck saves 12" of aisle space...

TURNS IN ITS OWN LENGTH!



Lewis-Shepard Model "J", with rear-wheel drive, pivots at exact center of load wheel axle... actually, *turns in its own length!* This feature alone saves 5" of aisle space.

But there are other advantages. Because of rear-wheel drive, there's no differential up forward. This permits the mast to be mounted directly over the front axle. With the mast so positioned, it is never necessary to counter-weight the mast itself, making further reductions in truck length possible. Low and compact, L-S Model "J" is the shortest

by far of all fork trucks. It saves up to 12" of aisle space; easily permits operator's head to clear 6'0" doors with operator in upright sitting position. It even operates comfortably *inside* trailer trucks.

You'll experience less downtime, more work time... with the sturdy, dependable, all-electric Lewis-Shepard Model "J". Capacities 1000 lbs.; 1500 lbs.; 2000 lbs.; and 2500 lbs. Catalog #33 gives all the details. Mail coupon requesting your copy. Get the facts without delay.

VISIT LEWIS-SHEPARD IN CLEVELAND JUNE 5-8 at the MATERIALS HANDLING EXPOSITION • BOOTHS 1012 and 228



Easily passes through 6'0" doors



The "MASTER" Line

LEWIS-SHEPARD®

135 Walnut St., Watertown 72, Mass.

☐ Send me L-S Catalog 33

☐ Send me L-S Master Line Catalog

Name.....

Title.....

Company.....

Address.....

Circle No. 104 on Reader Service Card for more information

**NEW OFFICE
BUILDING FOR
ACME STEEL**

Ground was recently broken by **Acme Steel Company** for construction of a new \$1,500,000 office building in Riverdale, Illinois. It will house all remaining offices and the 350 personnel now located at 2840 Archer Ave., Chicago. Consolidation of all Acme Steel operations in Riverdale will be possible with the completion of this building. In addition, the company says, it will make possible the unification of administrative, sales, and office facilities, and will improve communications, effect operating economies, and increase general efficiency.

**PLASTICS EXPO.
JUNE 11-15**

The **Seventh National Plastics Exposition** is scheduled for June 11-15 at the new Coliseum in New York City. Sponsor of the event, The Society of the Plastics Industry, Inc., reports registrations are already 42 percent ahead of last year and predictions are that as many as 250 firms will exhibit, 55 of them for the first time. New products, techniques, materials, machinery and services will be featured at the show, which is not open to the general public. A technical conference will run concurrently with the exposition.

NEW BEMIS PLANT

Bemis Bro. Bag Company has commenced operation of its first west coast paper specialty operation. Located in Wilmington, California, the new plant will eventually produce a complete line of paper specialties. Similar plants located in St. Louis, Missouri; Crossett, Arkansas; Albion, New York; and Brighton, Illinois.

**DESIGN
ENGINEERING
SHOW**

A **Design Engineering Show** will be held in Philadelphia's Convention Hall, May 14-17. Said to be the first show of its kind devoted exclusively to the needs of engineers who design products for consumer and industrial use, it will exhibit all types of original equipment that go into the manufacture of a finished product.

MORE BOXBOARD

A \$500,000 expansion program has been launched by the Mobile paperboard mill division of Stone Container Corporation. Included in the plans is equipment for making higher quality products and more grades of boxboard, plus improved storage and shipping facilities.

STARCH EXPANDS

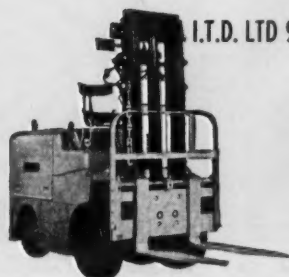
Opening of a new plant in Plainfield, New Jersey, has been announced by National Starch Products Inc. The new installation will permit expanded production of specially formulated adhesives for use in the laminating and rigid bonding fields:



men who can appreciate quality

are not satisfied with the merely expedient when the best is attainable. In the matter of industrial management top efficiency only is good enough, and the efficient handling of materials is a case in point. In this field Stacatruc fork lift trucks represent the highest quality, because we also believe that there is no worthwhile substitute for the best.

BRITAIN'S BEST MOBILE MATERIALS HANDLING SYSTEM



I.T.D. LTD 95-99 LADBROKE GROVE LONDON W11

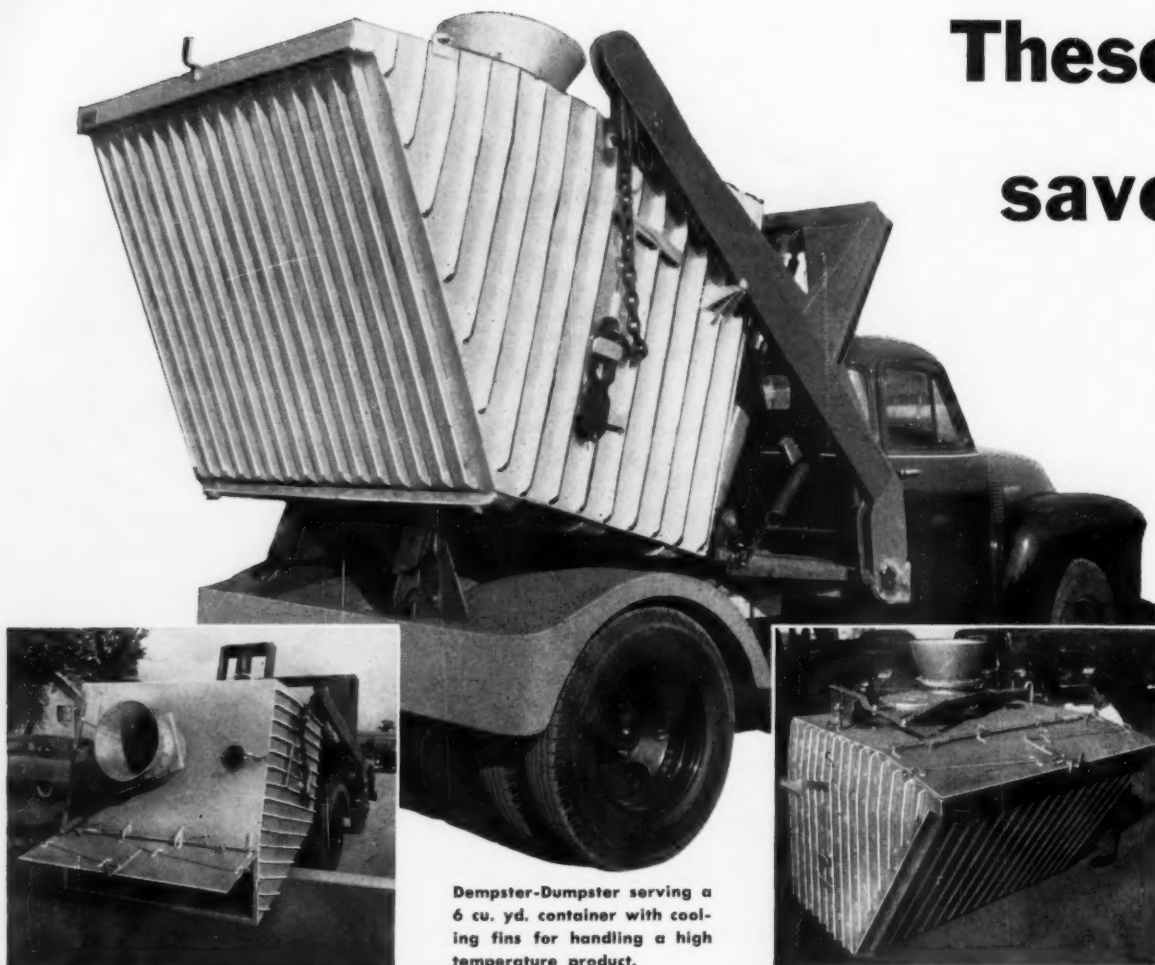
Cables: INDUSDEV LONDON

IN ASSOCIATION WITH
AUSTIN CROMPTON PARKINSON
ELECTRIC VEHICLES LTD

We are represented in Argentina, Australia, Belgium, Brazil, British East & West Africa, Canada, Denmark, Egypt, France, Holland, India, Ireland, Italy, New Zealand, Norway, Pakistan, Spain, Sweden, Switzerland, South Africa, Uruguay, and in all other major countries throughout the world. Full details available on request.

Circle No. 140 on Reader Service Card for more information

These save



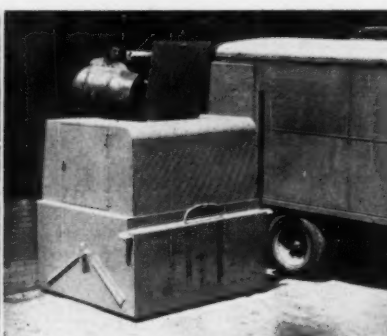
Dempster-Dumpster serving a 6 cu. yd. container with cooling fins for handling a high temperature product.

Here are a few of the hundreds of Detachable Containers we have built to solve handling problems of every description. A few others not shown include those with compartments . . . with insert containers . . . fully-insulated . . . lined with lead . . . lined with fire brick . . . with windows and doors

. . . with casters . . . flat bottoms and open at one end . . . with teeth . . . with shelves for tools and supplies—and we could describe hundreds more, all served by one Dempster-Dumpster and only one man, the driver.



This 3 cu. yd. Container has skids for fork lift truck transfer.



10 cu. yd. Container widely used for refuse and combustible wastes.



Flanged wheel equipped containers for remote loading.

DEMPSTER BROTHERS

FLOW

4 manufacturers to \$82,000.00 annually handling waste materials!

These four industrial plants expect to save, in labor costs alone, during the first five years service of the Dempster-Dumpster System—

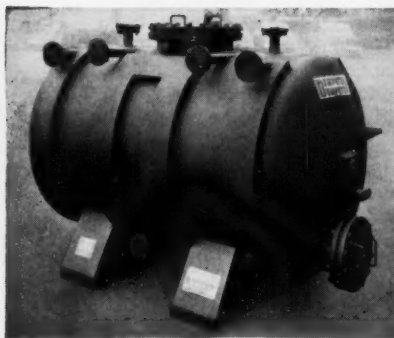
A PLASTICS PLANT: \$26,958.00 savings on an investment of \$9,523.50 in Dempster-Dumpster equipment. Savings alone pay for equipment in two years.

A CHEMICAL PLANT: \$204,076.75 savings on an investment of \$40,968.00 in this equipment . . . savings pay for equipment in one year.

AN AUTOMOTIVE PLANT: \$135,000.00 savings on an investment of \$19,272.00 . . . savings pay for equipment in 9 months.

A PAPER AND PULP MILL: \$43,104.00 savings on an investment of \$10,750.00 . . . savings pay for equipment in 1¼ years.

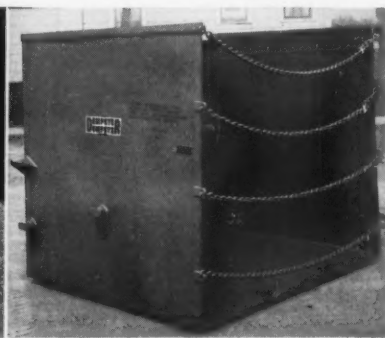
Those are typical examples. Visualize a Dempster-Dumpster, operated by only one man, the driver, serving scores of big steel containers, one after another, in your plant. Containers of many designs and types, handling waste or salvable materials, raw or finished products, fluids including acids, combustibles, dusty materials—anything that can be handled in up to 21 cu. yd. detachable Dempster-Dumpster Containers . . . payloads up to 19 tons. Savings are tremendous! Take advantage of our free engineering service, which determines by fact-finding survey the cost cutting possibilities of this system in your plant. Dempster Brothers, Inc.



600 Gal. stainless tank with brine cooling channels.



A Container available up to 10 cu. yds. with or without lids for many uses.



A 9 cu. yd. container for handling packaged products.

656 Shea Building, Knoxville 17, Tenn.



CATALOGS

offered in

Hoist with Extra Stamina . . . built into each component, including precision cut alloy steel spur gears, wide faced and heat-treated, mounted on alloy steel shafts running in sealed ball bearings, all splash lubricated. Capacities from 1000 to 20,000 pounds, with speeds from ten to fifty-four fpm, and standard lifts from sixteen to forty feet. Detailed in hoist Bulletin F offered by Robbins & Myers, Inc.

Circle 156 on Reader Service Card

New Truck Leveler . . . saves dock space and speeds loading, takes little space, reduces incline between truck bed and dock, handles any highway carrier with two hydraulic jacks, is described in new catalog from Rotary Lift Co.

Circle 157 on Reader Service Card

Hand Lift Trucks . . . in over 600 combinations of sizes and capacities in standard models are illustrated in complete truck index offered by Revolvator Co.

Circle 153 on Reader Service Card

Single Beam Cranes . . . with push button or pendant rope control from floor, cab or remote location are described in single beam crane bulletin offered by Shepard Niles Crane & Hoist Corp.

Circle 165 on Reader Service Card

Adjustable Steel Shelving . . . of basic units singly or combined with shelf boxes, sloping shelf units, bin fronts, swing or sliding doors are completely detailed in bulletin 2057 available from Hallowell Shop Equipment Div., Standard Pressed Steel Co.

Circle 168 on Reader Service Card

Tractor Loader . . . with low carry, short turning and high lift, one cubic yard capacity and two foot, 7½ inch reach at eight-foot dumping clearance is illustrated in descriptive catalog on a complete line of tractor loaders available from Tractomotive Corp.

Circle 178 on Reader Service Card

Fiber Glass Tote Pans . . . of light, strong reinforced polyester in nesting and stacking styles in a variety of molded-in colors, for all handling from receiving to shipping are detailed in complete information from G. B. Lewis Co.

Circle 103 on Reader Service Card

Power Sweeper . . . engineered for better plant housekeeping features hydraulic power dumping from driver's seat, filtered dust control which eliminates emptying dust bag, and vacuum attachments for cleaning shelves, machinery and stock. It is fully described in literature offered you by Wayne Manufacturing Co.

Circle 187 on Reader Service Card

How to Integrate Stencil Preparation with Paperwork Procedures . . . to prepare stencils with invoice, billing or shipping forms is the subject of a brochure available from Weber Marking Systems.

Circle 190 on Reader Service Card

Drop Bottom Containers . . . for efficient, economical and fast coke handling in capacities up to 325 cubic feet or 11,375 pounds are detailed in data available from the Youngstown Steel Door Co.

Circle 197 on Reader Service Card

Electric Industrial Trucks . . . in a complete line are fully described in data offered by Clark Equipment Co.

Circle 36 on Reader Service Card

Two-Way Radio Cuts 'Dead Mileage' . . . off truck operations and increases output per truck, according to data available from Motorola, Inc.

Circle 131 on Reader Service Card

Laminated Industrial Tires . . . without air chambers, make for bounce-free riding and eliminate flats. Complete information available from Notat Tire Co.

Circle 136 on Reader Service Card

New Pallet-Type Fork-Lift Dump . . . loads, dumps, stacks and stores bulk materials, and features a non-slip pallet slot, patented safety lock and one cubic yard capacity. Complete data offered by Salem-Brosius, Inc.

Circle 143 on Reader Service Card

Rotor Box Dumper . . . designed to handle any size or type box or several different size containers in the same cradle, with either manual, electric or air controls. Complete information available from Palmer-Shile Co.

Circle 140 on Reader Service Card

Magnesium Dock Ramps . . . with slanting side rails, safety curb ends, all-welded construction, beveled edges and full range locking device. Detailed data available from Penco Engineering Co.

Circle 141 on Reader Service Card

and BULLETINS

advertisements in this publication

Heavy Metal Shelving . . . with bin-type one-piece uprights and I-beam construction for strength are illustrated in a 48-page catalog offered you by De-Luxe Metal Furniture Co.

Circle 47 on Reader Service Card

Accurate Weight Indicator . . . in eight capacities from 0-250 to 0-20,000 pounds, weighs materials on the spot, as they are moved, eliminates double handling. Has 16-inch diameter dial and swivel hook, is fully described in illustrated literature from W. C. Dillon & Co., Inc.

Circle 51 on Reader Service Card

Battery Leasing Plan . . . is claimed to reduce electric truck cash outlay by one-third because user purchases only the truck chassis and leases the power package. Complete details available from Exide Industrial Div., Electric Storage Battery Co.

Circle 60 on Reader Service Card

Heavy Duty Hoists . . . with oversize anti-friction bearings, heat-treated steel parts and welded frame are illustrated and described in literature from Euclid Crane & Hoist Co.

Circle 59 on Reader Service Card

Corrosion Resistant Conveyors . . . made with nylon wheels and bearings, galvanized steel rollers with nylon bearings and steel or aluminum frames; efficient for wet conditions, salt, abrasives and many industrial acids; needs no lubrication. Complete information available from Metzgar Conveyor Co.

Circle 125 on Reader Service Card

Hydraulic Lift Gates . . . to handle newly developed skids, pallets, tote boxes, metal containers, hampers, baskets and racks are detailed in data offered by the Anthony Co.

Circle 18 on Reader Service Card

Uniform Wire Rope . . . assured by new electronic inspection device for quality control. Complete information available from American Steel & Wire Div., U. S. Steel Corp.

Circle 16 on Reader Service Card

Lightweight Portable Conveyors . . . to speed up handling for stacking and storage, moves from one job to the next; in 13 and 19 foot lengths with under-carriage. Complete conveyor catalog available from the Belt Corp.

Circle 27 on Reader Service Card

Easy Rolling, Safety Step Ladders . . . lightweight, rust-proof, with from one to four steps, with large smooth-rolling casters and step-on lock, in four sizes and seven models. Complete specifications provided by Ballymore Co.

Circle 25 on Reader Service Card

One-Man Combination Loader . . . that picks up like a straddle truck, delivers like a highway truck and stacks like a fork truck is explained in descriptive bulletin No. 1360 available from the Baker-Raulang Co.

Circle 24 on Reader Service Card

Chain Drive . . . power transmissions for driving, conveying and timing are fully described in catalog 51 published by Cullman Wheel Co.

Circle 43 on Reader Service Card

All-Metal Rotary Bins . . . for broken package lots and large quantities of small items are fully detailed in catalog No. 110-A available from Frick-Gallagher Manufacturing Co.

Circle 66 on Reader Service Card

Pneumatic Bin Evacuators . . . eliminate material hang-up in bins with steel-backed, Neoprene diaphragm mounted on the inside wall of present bin, activated by regular air supply. They are described in detailed literature offered by Geroter May Corp.

Circle 72 on Reader Service Card

Complete Line of Floor Trucks . . . and how to select them for every application are described in informative new catalog published by Hamilton Caster & Manufacturing Co.

Circle 80 on Reader Service Card

Air-Operated Carton Stapler . . . weighing only eight pounds, twelve ounces, staples up to 300 cartons per hour, from the outside, after filling. Complete details available from International Staple & Machine Co.

Circle 89 on Reader Service Card

Hydro-Electric Lift Truck . . . with two drive wheels, alloy gear transmission, finger-tip controls and easy accessibility for maintenance; is fully described in catalog No. 65 offered by Lift Trucks, Inc.

Circle 105 on Reader Service Card

Speedy Load Carrier . . . in gas or electric models features cost-cutting payload capacity, pulling power and handling ease, according to data available from Kalamazoo Manufacturing Co.

Circle 95 on Reader Service Card

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New Equipment & Supplies Starting on Page 161

Useful Literature Starting on Page 153

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Street

City Zone State

	PLEASE	SEND	ME	ADDITIONAL	INFORMATION	AND	LITERATURE	ON	ITEMS	CIRCLED	BELOW.								
1	26	51	76	101	126	151	176	201	226	251	276	301	326	351	376	401	426	451	476
2	27	52	77	102	127	152	177	202	227	252	277	302	327	352	377	402	427	452	477
3	28	53	78	103	128	153	178	203	228	253	278	303	328	353	378	403	428	453	478
4	29	54	79	104	129	154	179	204	229	254	279	304	329	354	379	404	429	454	479
5	30	55	80	105	130	155	180	205	230	255	280	305	330	355	380	405	430	455	480
6	31	56	81	106	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481
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11	36	61	86	111	136	161	186	211	236	261	286	311	336	361	386	411	436	461	486
12	37	62	87	112	137	162	187	212	237	262	287	312	337	362	387	412	437	462	487
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24	49	74	99	124	149	174	199	224	249	274	299	324	349	374	399	424	449	474	499
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25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500

CATALOGS AND BULLETINS

Continued

How Steel Strapping Un-
tizes . . . drain tile, castings, forg-
ings, ingots, bricks, sheets, cartons
and many other products of dif-
ferent sizes and shapes is detailed
in data available from Signode
Steel Strapping Co.

Circle 166 on Reader Service Card

Fork Lift Truck with Power
Steering . . . tilting mast, sturdy
four-cylinder industrial engine,
oversize clutch, Timken drive axle
and 108-inch standard lift is fully
described in folder offered by
Truck-Man Div. of Knickerbocker
Co.

Circle 179 on Reader Service Card

Hydraulic Tractor Shovel
. . . in 1½- or 2¼-cubic yard ca-
pacities, able to turn from a nine-
foot aisle into a nine-foot bin, and
with excavator power and crawl-
er tracks for floatation, is de-
scribed in illustrated literature
available from Allis-Chalmers
Manufacturing Co.

Circle 6 on Reader Service Card

Maneuverable Electric
Trucks . . . with lower silhouette,
greater stability to handle large,
heavy loads up to 6000 pounds in
tight places and narrow aisles, are
fully described in a detailed bul-
letin offered by Baker-Raulang Co.

Circle 31 on Reader Service Card

Pre-Fabricated Conveyor
Sections . . . in straight, convex,
concave, take-up charge and dis-
charge units, to assemble virtually
any type conveyor for flexibility
and easy modification are de-
tailed in complete information
available from May-Fran Engi-
neering, Inc.

Circle 121 on Reader Service Card

Heavy Duty Steel Strapping
. . . to secure heavy units to flat
cars is just a single example of
many uses illustrated in complete
catalog offered by Steel Strapping
Div., the Stanley Works.

Circle 169 on Reader Service Card

"Cost-Saving Packaging"
. . . is the title of a booklet offered
by Celotex Corp. describing how
custom engineered, prefabricated
inner packs of industrial fiber
board speed packaging time and
prevent shipping damage in many
varied industries.

Circle 35 on Reader Service Card

L-P Gas, Diesel and Gas-
line Engines . . . for industrial
truck power, smoothness, long life
and low fuel, oil and upkeep costs
are covered in complete data from
Continental Motors Corp.

Circle 39 on Reader Service Card

Shock-Resistant Filament
Tape . . . with 500-pound tensile
strength per inch of width, in four
colors, to help solve your heavy-
duty packaging and material han-
dling problems, is fully described
in an illustrated booklet offered
you by Minnesota Mining & Man-
ufacturing Co.

Circle 128 on Reader Service Card

One-Man Pallet Loader . . .
that eliminates hand loading and
stacks boxes, cartons or bags me-
chanically is detailed in an in-
formative bulletin 55-9 published
by the J. W. Greer Co.

Circle 77 on Reader Service Card

New Gasoline-Hydraulic
Transfer Cars . . . custom-built
to requirements in capacities from
five to 500 tons, with two-way
speeds of fifty feet per second, are
detailed in data offered by Easton
Car & Construction Co.

Circle 54 on Reader Service Card

Fork Trucks . . . to negotiate
narrow aisles at productive speeds,
maneuver material into position
with dexterity and hoist loads up
to 2000 pounds to ceiling height
quickly and easily, as well as other
fork trucks up to 8000 pounds
capacity, and tractors and trailers,
are featured in descriptive litera-
ture published by Mercury Manu-
facturing Co.

Circle 123 on Reader Service Card

Lightweight Aluminum
Chain Block . . . weighs 29
pounds, lifts 500 pounds with 25-
pound chain pull. Other chain
blocks from ¼ to ten-ton capaci-
ties fully described in bulletins 398
and 415 offered by Manning,
Maxwell & Moore, Inc.

Circle 116 on Reader Service Card

"How Radio Control Cuts
Costs of Materials Handling"
. . . is the title of a new illustrated
booklet from Radio Corp. of
America that shows how two-way
radio speeds handling in various
industries and knits all operations
into a well integrated team.

Circle 149 on Reader Service Card

Industrial Truck Batteries
. . . backed by research, designed
for longer life, and supported by a
national field service for prompt
maintenance service are detailed
in complete information offered
by Gould-National Batteries, Inc.

Circle 76 on Reader Service Card

Electro-Mechanical Dock
Leveler . . . without hydraulic
units or counter weights; is said
to be ideal for all weather oper-
ation, economical, 100% safe, and
easy to install. Complete informa-
tive literature available from Hart-
man Metal Fabricators, Inc.

Circle 79 on Reader Service Card

Portable Aluminum Con-
veyors . . . with electric or gaso-
line drive for inclined or horizon-
tal operation are completely de-
scribed in new catalog published
by New London Engineering Co.

Circle 139 on Reader Service Card

Electric Tiering Truck . . .
with "boarding house reach" to
work in six-foot aisles without
straddling the bottom pallet, by
reaching into the rack to pick up
or deposit the load, is fully de-
tailed in illustrated bulletin of-
fered by the Raymond Corpora-
tion.

Circle 150 on Reader Service Card

Storage Idea Book . . . that shows how to build any type storage unit with slotted steel angles, precision-made of cold rolled, galvanized steel, cut and bolted to shelving or table units, is offered you by the Dexion Div., Acme Steel Co.

Circle 4 on Reader Service Card

Spring Action Casters . . . with puncture-proof, pneumatic wheels that deliver delicate aircraft testing units over rough areas with a jolt-free ride are fully described in data available from Faultless Caster Corp.

Circle 63 on Reader Service Card

Welded Steel Storage Racks . . . made of strong welded tubular steel, adjustable to fit any space or load unit or in special types designed to individual specifications are described in a new catalog available from Equipment Manufacturing Co.

Circle 58 on Reader Service Card

"Packing for Maximum Protection" . . . is the title of a new booklet offered by Armour & Co. describing how Hairflex, curled hair cushioning with locked-in latex rubber, absorbs in-transit shock and vibration and protects square, round or irregular shaped equipments.

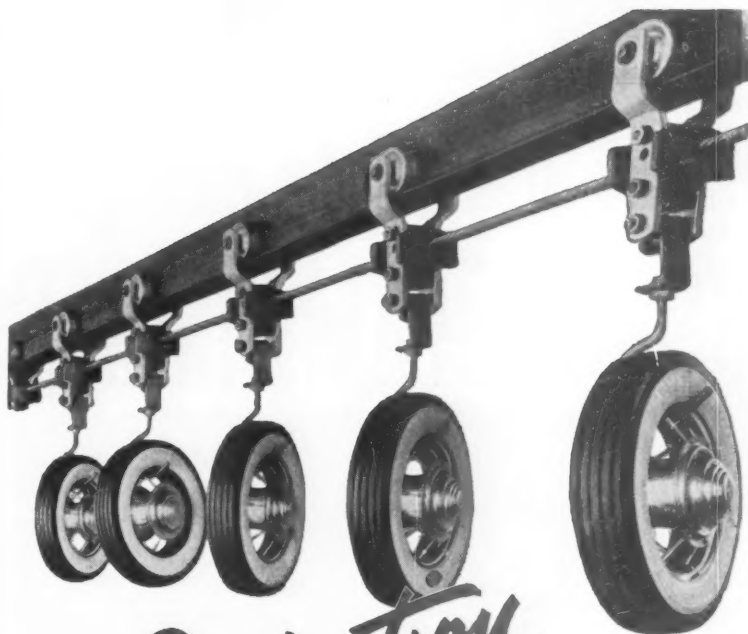
Circle 19 on Reader Service Card

Safe Electrification for Heavy-Duty Cranes and Hoists . . . to eliminate dangerous wiring or other hazards with standard components for fast, easy installation is detailed in data available from Feedrail Corp.

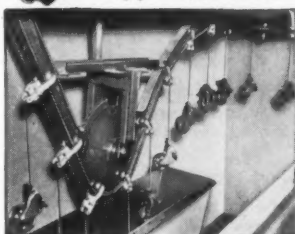
Circle 64 on Reader Service Card

"Duty Designed" . . . is the story of versatile wire mesh tote boxes in a variety of styles and sizes to fit almost any industrial need, published by the Pittsburgh Steel Co.

Circle 146 on Reader Service Card



Production going your way on Buschman Cable Conveyors



Space saving construction shown by 9-1/2" radius dip at tank.

These streamlined pre-engineered conveyors have no equal in economy, flexibility and application. Designed for light and medium loads, they will operate continuously with minimum adjustment and maintenance.

Fabricated from stocked component parts, Buschman "Universal" cable conveyors permit "customized" installations at standard prices. Their compact construction . . . shorter radius turns and dips . . . save production space.

If low-cost production is your goal . . . Buschman is your conveyor! The E. W. Buschman Co., 4450 Clifton Avenue, Cincinnati 32, Ohio.



C-290-EWB

World's Most Complete Line of Conveying Equipment

BUSCHMAN

CONVEYORS

GRAVITY CONVEYORS • LIVE ROLLER • BELT • SLAT • ETC.

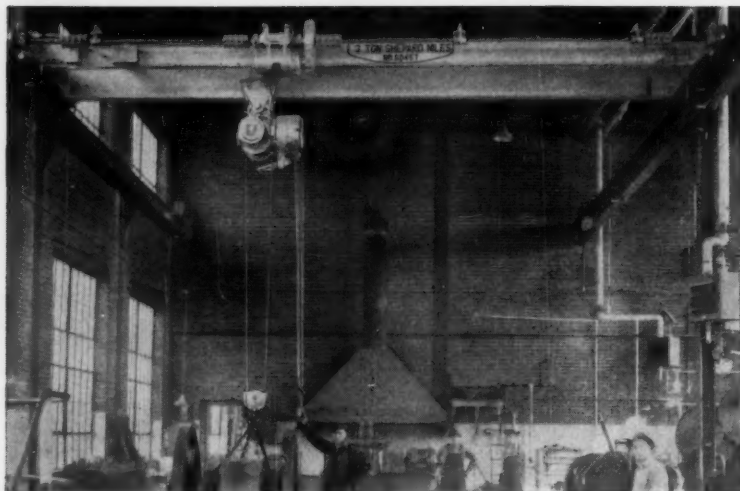


Write for
Bulletin 40
for complete
details.

Circle No. 30 on Reader Service Card for more information

SHEPARD NILES**CRANES**

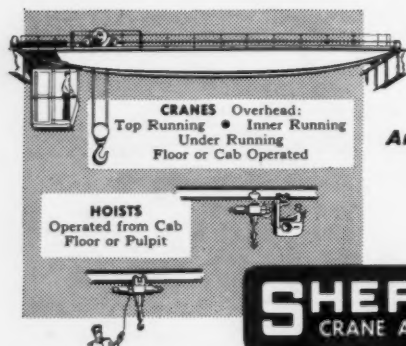
Over-running... Under-running... SINGLE BEAM CRANES



PERHAPS YOUR PLANT doesn't require a crane of double beam construction. Or possibly ceiling clearances would prevent its use. In either instance, a Shepard Niles Single Beam Crane might well be best for your use.

Shepard Niles Single Beam Cranes handle loads with precision, safety and at low operating cost. These cranes can be supplied with push button or pendant rope control for operation from floor, cab or remote location. Push-type or motor-driven trolley types of hoists, including close clearance units, are commonly employed on Single I-Beam Cranes.

Why not talk over your plant's load-handling requirements with an experienced Shepard Niles representative.



• Write today for latest Single Beam Crane Bulletin... and ask to have a representative call.

**America's Most Complete Line
of Cranes and Hoists
Since 1903**

SHEPARD NILES

CRANE AND HOIST CORPORATION

2777 Schuyler Ave., Montour Falls, N.Y.

Visit Booth 102 Material Handling Show, Cleveland, June 5-8
Circle No. 165 on Reader Service Card for more information

CATALOGS

Continued

Heavy-Duty Fork Truck... that lifts and carries up to 5000 pounds on paved or unpaved areas with full eleven-foot clearance, in a choice of LP Gas or conventional power plants, is fully detailed in complete information available from Piper and Paine.

Circle 145 on Reader Service Card

Gummed Filament Tape... users report you can package almost anything better, at lower cost, according to information from Mid-States Gummed Paper Co.

Circle 127 on Reader Service Card

Light-Duty Overhead Conveyor... with stock components and 8, 12, 16 or 20-inch trolley spacing that handles loads up to 160 pounds is fully described in bulletin offered you by Alvey-Ferguson Co.

Circle 45 on Reader Service Card

Self-Stacking Tote Boxes... of chemically impregnated corrugated board in a variety of stock sizes and shapes, weigh 40% less than steel, in nesting and stacking styles, are completely detailed in data from Convoy, Inc.

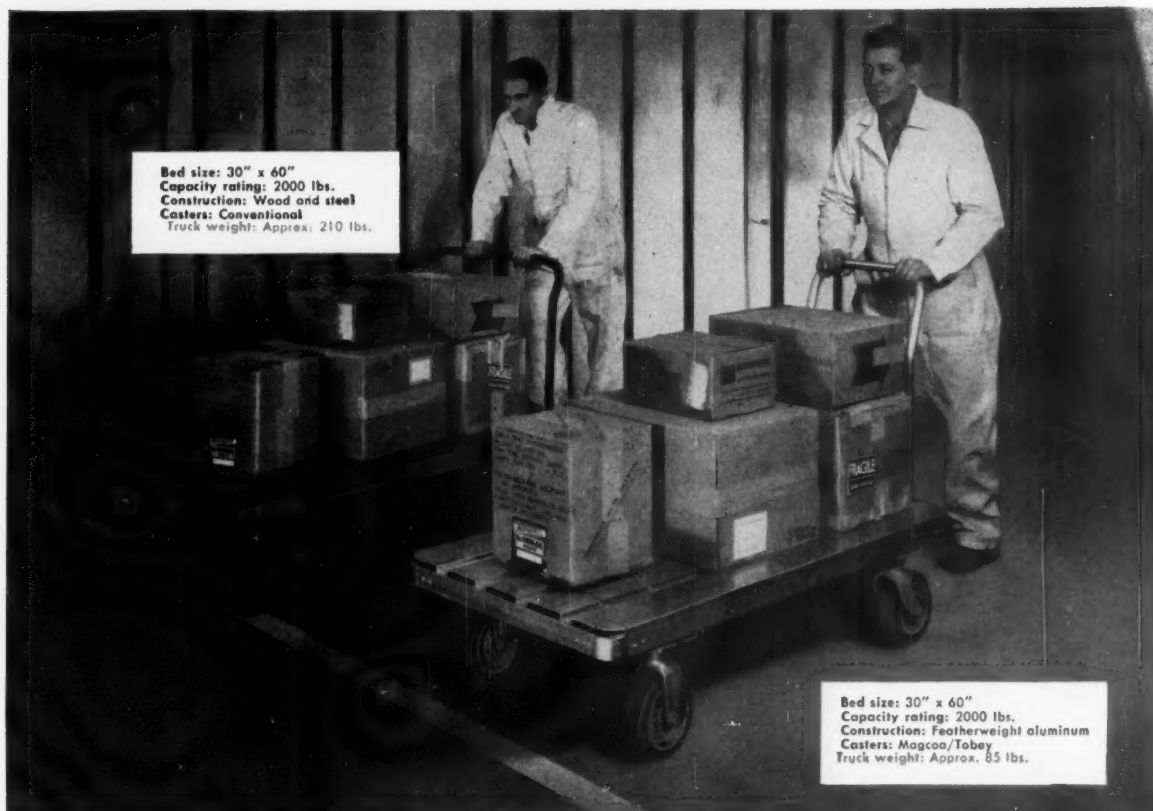
Circle 41 on Reader Service Card

One-Man, Self-Propelled Crane... speeds yard work, lifts up to 12,000 pounds and loads up to 100 cubic yards per hour is fully detailed in data offered you by Schield Bantam Co.

Circle 162 on Reader Service Card

Coil Stock Lifter... handles wide range of coil sizes, requires minimum ten to twelve inches clearance between piles, saves storage room, grips coil without damage to material, and can be operated by one man, is fully described in illustrated bulletin published by Cullen-Friedstedt Co.

Circle 42 on Reader Service Card



Bed size: 30" x 60"
Capacity rating: 2000 lbs.
Construction: Wood and steel
Casters: Conventional
Truck weight: Approx. 210 lbs.

Bed size: 30" x 60"
Capacity rating: 2000 lbs.
Construction: Featherweight aluminum
Casters: Magcoa/Tobey
Truck weight: Approx. 85 lbs.

Actual test proves that Magcoa/Tobey lightweight aluminum truck starts and stops quicker, steers easier, makes more trips in less time than conventional wood and steel truck.

The Magcoa/Tobey aluminum truck will move more payloads in less time!

... at lower cost ... with greater safety ... and less worker fatigue

Make this test in your plant ... as others have done in a score of cost-conscious industries.

Replace one heavy, cumbersome wood and steel truck with a Magcoa/Tobey lightweight aluminum truck of equal size and capacity. Watch the results. The high-priced worker who moves the truck will get a quicker, easier start. He will move and steer the truck with greater ease and safety ... whether going in a straight line or around curves and corners. At his destination he will stop the truck in less time and space and with less effort.

Your own observation will show you that the man with the Magcoa/Tobey makes more trips in less time ... with less fatigue. By eliminating dead weight Magcoa/Tobey cuts those truck costs which mean the greatest savings to you: the cost of moving the truck!

LOOK AT THESE REVOLUTIONARY FEATURES—

- **Weight Savings**—Magcoa/Tobey trucks are built of high strength, low weight aluminum. Weight cut as much as 80%.
- **Flexible Bed Construction**—Special aluminum extrusions engineered to protect loads, increase stability; ease shock on casters and floors.
- **Maintenance—Practically None**—Aluminum is easy to clean and keep clean; no painting. Non-magnetic,

non-corrosive, non-toxic; doesn't absorb moisture or odors.

- **Wheels, Tires for Every Job**—Aluminum or plastic wheels; your choice of molded-on-rubber, zero-pressure or pneumatic tires.
- **Wide Range of Styles, Sizes**—Hundreds of standard models are available. Engineering know-how will solve your "special model" problems, too.



Revolutionary swivel casters increase efficiency ... minimize maintenance

Assures easiest possible maneuverability and free-swivel action under full load. Assures complete freedom from bind and annoying wobble; minimizes maintenance and solves replacement problem.

There is something new in trucks. Get the full facts.

Alert companies in a score of industries have switched to Magcoa/Tobey

aluminum trucks. Many of them bought one truck on a "try it and see" basis. Why don't you do the same thing? It costs so little to prove to yourself that Magcoa/Tobey trucks do more work in less time, with less worker fatigue and with negligible maintenance.

Write for the full facts. A new Data File shows the dozens of Magcoa/Tobey types and hundreds of sizes available to help you cut your handling costs. Available on request, without obligation. Use the handy coupon.

MAGNESIUM COMPANY OF AMERICA

TOBEY ALUMINUM DIVISION

East Chicago 1, Indiana

Representatives in Principal Cities

☐ Please send Magcoa/Tobey Data File

Name and title _____

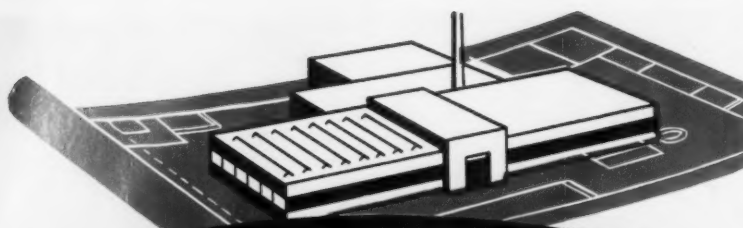
Company _____

Address _____

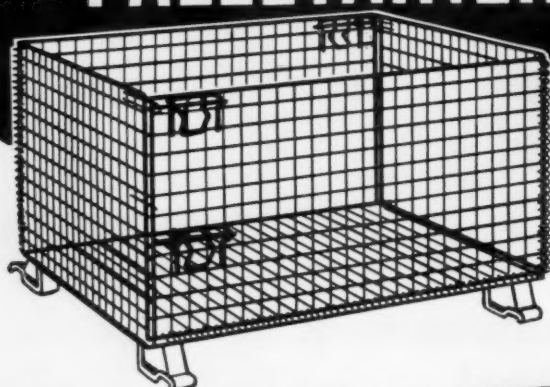
City-Zone-State _____

Copyright, 1956, Magnesium Company of America

Circle No. 113 on Reader Service Card for more information



DON'T BUILD THAT PLANT UNTIL YOU INVESTIGATE THE ADVANTAGES OF— USP PALLETAINERS



HI-LODE

Don't build that plant! . . . until you have investigated the advantages of USP Palletainers, the engineered containers that produce actual provable economies and permanent cost reductions along your production lines, warehouses, shipping docks and transport systems.

Palletainers are basic . . . as essential to your plant as heat, light—brick and mortar. Why then, plan a new building, an expansion of facilities without first considering the prime importance of Palletainers for fast, safe and convenient movement and storage of your products?

Palletainers provide a better way to handle anything—And—with Palletainers you can "stack to the rafters" for amazing warehouse space conservation—and with complete safety.

Then, too, Palletainers cut your shipping costs. They are virtually indestructible and eliminate transit damage on any carrier.

To better suit your needs, Palletainers are available in a broad range of sizes, types and capacities. Regular models incorporate the famous exclusive Palletainer safe stacking legs, locks, retainer links and practical "flat-fold" side feature.

If you are building a plant or planning an expansion, why not check the advantages of USP Palletainers—now?



WAREHOUSE



BEARING PLATE



BULK-LODE

**UNION STEEL
PRODUCTS CO.**

Albion, Michigan

* Palletainers are manufactured
in Canada by:
CRONAME OF CANADA, LTD.,
WATERLOO, QUEBEC



Circle No. 183 on Reader Service Card for more information

CATALOGS

Continued

Handles 20-Ton Loads . . .
anywhere in a yard safely with live boom hoist in two speeds that deliver full power for loading and lifting . . . complete information on this truck crane is available from Gar Wood Industries, Inc.
Circle 69 on Reader Service Card

New Five-Ton Crane . . .
with longer, higher reach, power steering, complete hydraulic operation and solid or pneumatic tires, is fully described in detailed information available from Service Supply Corp.
Circle 164 on Reader Service Card

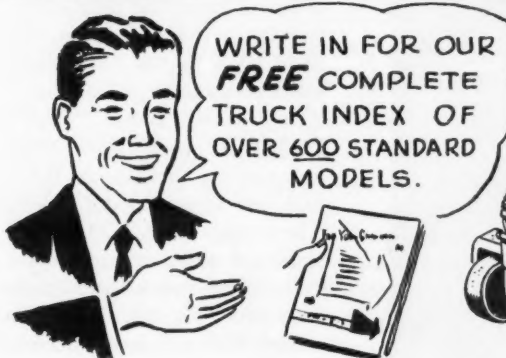
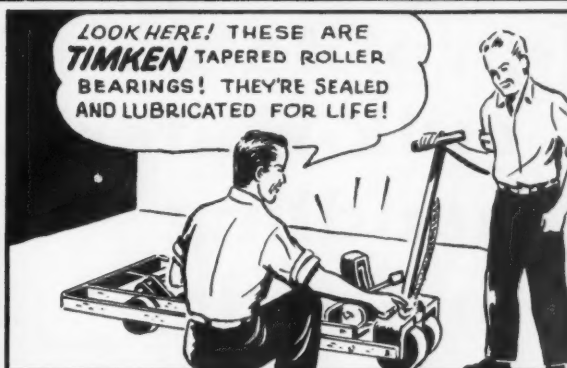
Pre-Engineered Cable Conveyors . . . designed for light and medium loads to operate continuously with minimum adjustment and maintenance, are completely detailed in illustrative bulletin No. 40 offered by the E. W. Buschman Co.
Circle 30 on Reader Service Card

Metal Processing Belts . . . tailored to individual production needs and problems are detailed in data available from Cyclone Fence Dept., American Steel & Wire Div., U. S. Steel Corp.
Circle 15 on Reader Service Card

Lift-Truck Scale . . . that enables any hydraulic fork lift to weigh as it lifts, assures a full load, protects men and equipment, sums up stock totals, and prevents floor overloads, is described in complete information offered by Martin-Decker Corp.
Circle 119 on Reader Service Card

For Safe Drum Handling . . . drum carrier that lifts, stacks and transports, is easy to install on any standard lift truck, is detailed in complete information available from Walz & Krenzer, Inc.
Circle 188 on Reader Service Card

Why Jim Davis Picked RED GIANT HAND LIFT TRUCKS



WRITE IN FOR OUR
FREE COMPLETE
TRUCK INDEX OF
OVER 600 STANDARD
MODELS.



Gentlemen:
Please send me without obligation, your truck
index of Red Giant models in over 600 combina-
tions of sizes and capacities.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____
STATE _____

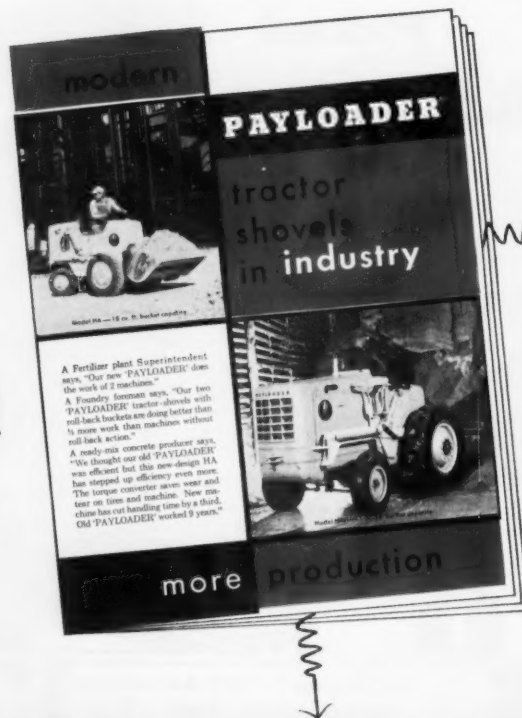
FOR YOUR CONVENIENCE. Illustrated in this
index are basic types of Red Giant Lift Trucks.
Select the type best suited to your operation.

REVOLVATOR CO.

8939 TONNELE AVE., NORTH BERGEN, N.J.

Circle No. 153 on Reader Service Card for more information

get these
first-hand
reports of
profitable
bulk-material
handling
methods

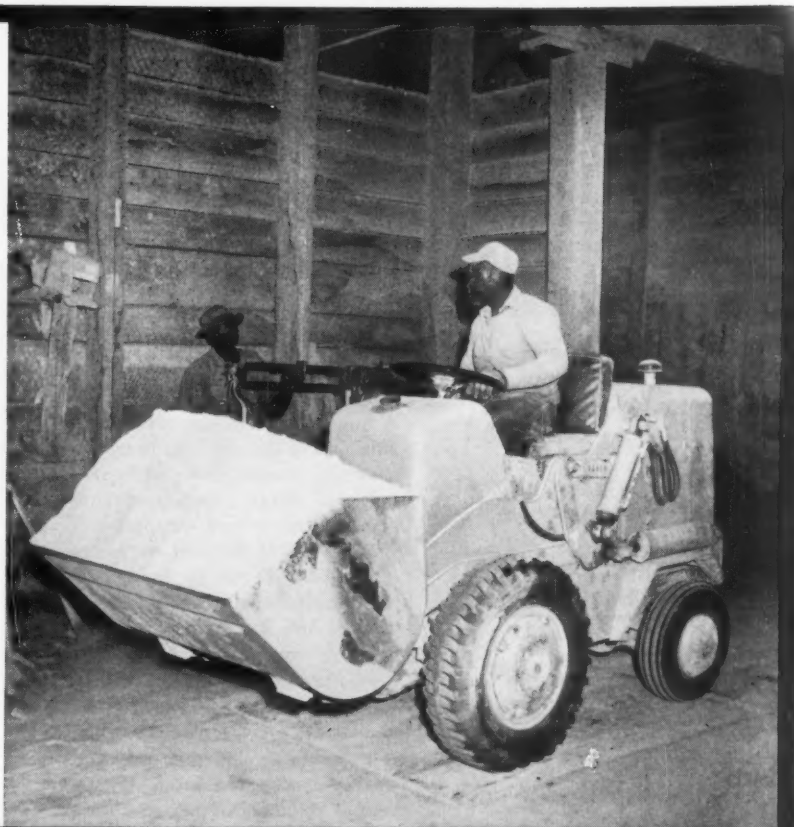


**Continuous,
Trouble-Free
Service at
APOTHECARIES
HALL COMPANY**

Apothecaries Hall Company is one of the oldest joint stock companies in Connecticut and have been in the fertilizer business more than 100 years. They have been "PAY-LOADER" users since 1942 and now use three model HA's and one larger model HAH. They say, "'PAYLOADER' units are built for continuous trouble-free service and that's just what we get. The new model HA roll-back bucket increases the delivery load. This is especially true in rail car unloading."

**10 Years Satisfac-
tory experience
with 10
"PAYLOADER"
units at VALIANT
FERTILIZER
COMPANY**

"Our new HA 'PAYLOADER' does the work of 2 machines." Ernest Dickerson, plant supt. of Valiant Fertilizer company, also adds, "This increase is made possible by the roll-back bucket design which carries more bulk material. The low-carrying bucket offers better vision and safety. Torque converter and bucket design gives longer tire wear, less spillage and practically no floor clean-up."



More than 35 years of experience in tractor-shovel design and application has been built into "PAYLOADER" units by The Frank G. Hough Co., originators of the unit-design tractor-shovel. It is this vast experience and knowledge incorporated into the design of each "PAYLOADER" model that makes the big difference in its superior performance on any job.

The new "PAYLOADER" Models HA and HAH include many exclusive features which pay off in greater output per hour. They are small and compact for easy maneuvering and handling in close quarters, yet have ample dumping height for most any job. The 40° bucket roll-back gets full loads fast and, combined with the hydraulic shock absorber, enables the "PAYLOADER" to carry full loads in a higher gear without spillage. These two features are BIG reasons why these machines give more production than heavier machines with bigger engines.

The full-reversing transmission and torque converter provide a wide range of easily obtainable speeds and maximum efficiency in handling each load. Extremely rugged construction... finest quality in each component—assures continuous performance with a minimum of "down-time" and a longer useful life.



PAYLOADER®
MANUFACTURED BY
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.
SUBSIDIARY—INTERNATIONAL HARVESTER COMPANY



It's the difference in performance that has made the "PAYLOADER" the decided choice in thousands of plants throughout the world—there are more in service today than all other makes combined. A "PAYLOADER" is your best investment now—and for the future.

THE FRANK G. HOUGH CO.

731 Sunnyside Ave., Libertyville, Ill.

- ☐ Send profitable bulk-handling reports
- ☐ Literature on model HA (18 cu. ft.) and model HAH (1 cu. yd.) "PAYLOADER"
- ☐ Literature on larger units to 2 1/4 cu. yd.

Name _____

Title _____

Company _____

Street _____

City _____

State _____

Circle No. 83 on Reader Service Card for more information



DUMPS ITSELF



RIGHTS ITSELF



LOCKS ITSELF

pays for itself!

It's the safe, sensible, economical way to handle wet or dry, hot or cold bulky materials. Simple, one-man operation does the job with amazing speed . . . cuts cost of hand unloading by at least 50%.

This rugged Roura Self-Dumping Hopper is built to withstand the terrific knocks and bangs of rough usage. Extra heavy gauge metal and welded construction mean years of dependable service. Fits any standard fork or platform lift truck. Also available mounted on live skids or with malleable or rubber tired casters. Sizes from $\frac{1}{2}$ to 2 cubic yards. Thousands in use in America's biggest industries.

ROURA Self-Dumping HOPPER

WANT MORE FACTS? Clip this coupon
... attach to your letterhead ... sign your
name ... and mail to ...

ROURA IRON WORKS, INC.
1411 Woodland Ave., Detroit 11, Michigan

Circle No. 158 on Reader Service Card

HIGHLIGHTS of the MONTH'S NEWS

Small Plants Must Mechanize . . . Or Else

A few years ago, extensive mechanization of material handling was generally thought to be applicable only to large, mass-producing plants. Then, within the past two years, some of the best engineers in industry began to show how smaller plants could profitably automate. And it wasn't long before the engineers, gaining support from the economists, started to warn small plants, "Mechanize . . . or else!"

The next step in this evolution was evidenced in March of this year as a number of messages were delivered to the Cleveland Chapter of the American Institute of Industrial Engineers. Perhaps most significant among them was the statement by Charles H. Welling, noted industrial consultant. He told how some of the great American firms are now importing components or elements of their own lines—which they cannot now get produced here sufficiently economically to command their shares of the market.

Supplier companies—especially those with lower production or batch production operations—must take advantage of advances in mechanization that are being offered to them in increasing numbers. Particularly if they have been heavily engaged in supplying products or components to larger, mass-production firms. If they don't find the way to produce the required quality and quantity in line with economic needs, they have at least three clear alternatives—struggle against increasing odds; lose out to other producers (American or Foreign); or go in to another business.

This surely sounds harsh, but the economic warnings are clear.

READY FOR ACTION

WHEREVER YOU
NEED A LIFT



It is 'Budgit'—the light-weight aluminum chain block you can carry and use anywhere for "spot lifting." The smallest size weighs just 29 lbs. but lifts 500 lbs. with a hand chain pull of only 25 lbs. Operation is smooth, fast, safe. Every part—from over-capacity hooks to big "full-jeweled" brake—is superstrong. For maintenance in the plant or outdoors . . . for equipment installation . . . for daily production jobs . . . choose the 'Budgit' Aluminum Chain Block. Highest efficiency and long service life make it your best buy in "knock-about" hoists. Capacities: $\frac{1}{4}$ to 10 tons. Get details from your Shaw-Box Distributor or write us for Bulletins 398 and 415.



AN J-BEAM TROLLEY adds travel-ability to any hoist. All types available. Capacities: $\frac{1}{4}$ -ton up. Priced from \$18.50. Write for bulletin.



'Budgit' CHAIN BLOCKS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "SHAW-BOX" and "LOAD LIFTER" Cranes, "BUDGIT" and "LOAD LIFTER" Hoists and other lifting specialties. Makers of "ASHCROFT" Gauges, "HANCOCK" Valves, "CONSOLIDATED" Safety and Relief Valves, "AMERICAN" and "AMERICAN-MICROSE" Industrial Instruments, and Aircraft Products.

Circle No. 116 on Reader Service Card
FLOW

"Special" Today— "Standard" Tomorrow

Research in the laboratory of a material handling equipment manufacturer seldom gets the spotlight. Industry takes it for granted that the firm will produce the devices needed to mechanize operations. But the work and money that go into a developmental program, and the results that are not clearly recognizable as "material handling equipment," are, more often than not, kept in the back-ground.

For example, Elmer F. Twyman, Vice President of Yale & Towne Manufacturing Co., recently told a press group that his firm had just completed a \$5 million, three-year research and manufacturing program to produce new lines of industrial trucks. He noted that research and engineering departments of his firm had produced ideas which have become commonplace for other than material handling operations. He credited Yale engineers for having developed and built, in 1934, the first power-steering device used on automotive-type equipment. This was on a 30-ton capacity truck for handling body-dies at the Hudson Motor Car Company. He noted that the first silicon-impregnated motor, designed and produced at one of Yale's material handling divisions, has been adopted by leading electrical manufacturers.

Asked in what specific directions research on industrial trucks is progressing, Twyman stated it depended entirely upon demands of industry—"What is 'special' today becomes 'standard' tomorrow", he said, and cited the ram attachment, originally built as a special for a steel mill, now standard for many operations.

The Yale spokesman believes the prospects for the entire industrial truck industry to be expansive.

For the user, there is the assurance that every effort is being made to produce equipment he needs and wants—at a price he can afford and quickly recover.

Ed Lighten

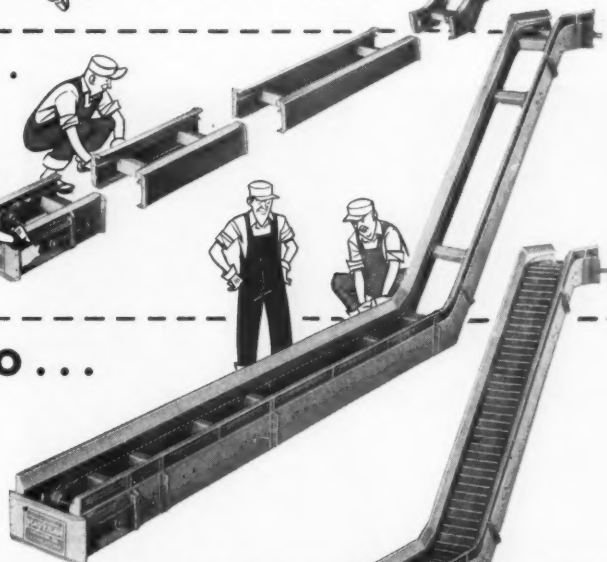


**WE ASSEMBLED
OUR OWN
CUSTOMIZED
CONVEYOR
AS EASILY AS...**

ONE ...



TWO ...



THREE ...



**WITH MAY-FRAN
STANDARD COMPONENTS**

Through standardization, MAY-FRAN now makes it possible to assemble mass produced components into virtually any type of conveyor to handle a wide range of products or materials.

This program is cutting costs for manufacturers because . . . it means they can dis-assemble their conveyors for use in other plant locations . . . it means conveyors can be modified in almost any way at minimum cost.

Pre-fabricated sections are available rapidly and inexpensively. Straight sections . . . concave or convex sections . . . take-up charge and discharge-end sections can be furnished to meet specific requirements of belt width as well as load bearing and volume capacities.

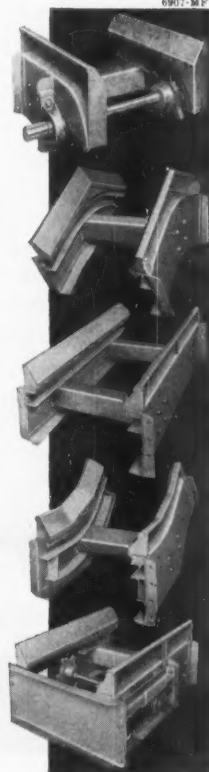
MAY-FRAN

ENGINEERING, INC.

1611 Clarkstone Road • Cleveland 12, Ohio



Write today
for complete
information.



Cut "DEAD MILEAGE" off every truck!



Driver gets instructions for next pickup while he's finishing last one ... not a second wasted.

In hundreds of plants, warehouses, yards and depots, Motorola 2-way radio has paid for itself in a few short *months*, by increasing output per truck and cutting costs a dozen ways. A Motorola Communications Engineer will show you, in dollars and cents, how Motorola 2-way radio will actually *save* you money, year after year. And he'll show you how Motorola can help do the job better ... why Motorola, the pioneer and leader, furnishes *more* 2-way radio than *all others combined*. Get the facts—write, phone, or wire—NOW.

Check all these Motorola 2-way radio benefits

- A Really *SMOOTH* flow pattern ... each truck taking the next closest job, with no backtracking ... "dead mileage" cut to a minimum.
- More *Completed Jobs* per hour per truck ... a substantial saving in routine materials handling costs.
- Three trucks do the work of four ... you get greater work output without additional truck investment.
- Organized control, through more productive space management—*live* storage instead of dead storage.
- Greatly expanded handling capacity for peak load periods.
- Lower truck operating costs ... fuel ... maintenance.



Dispatcher gets a rush request—radios it to truck nearest job ... time and needless travel saved.

MOTOROLA

2-WAY RADIO

MOTOROLA COMMUNICATIONS & ELECTRONICS, INC.
A SUBSIDIARY OF MOTOROLA, INC.
4501 AUGUSTA BOULEVARD • CHICAGO 51, ILLINOIS
ROGERS MAJESTIC ELECTRONICS LTD. TORONTO, CANADA



Motorola consistently supplies more mobile and portable radio than all others combined.

Proof of acceptance, experience and quality.

The only COMPLETE radio communications service—specialized engineering ... product ... customer service ... parts ... installation ... maintenance ... finance ... lease.

"The best costs you less—specify Motorola."

Circle No. 131 on Reader Service Card for more information

FLOW

All the rest is handling

How Louden Hot Metal Carriers & Die-Handling Cranes expedite operations in a new casting plant

Castings play a major role in the Johnson product, its famous Seahorse Outboard Motor. Here, in the new Waukegan plant, die-casting is a brief contact between die and molten aluminum in the die-casting machine. *All the rest is handling.* Louden handling. Dies in and out of storage. Dies into casting machines. Molten aluminum into carrier-borne ladles, hurried to die-casting machines, lifted, tilted and poured. The castings are removed, dies are taken to maintenance and cleaning, then returned to storage.

The Louden Stacker Crane, two Louden Hot Metal Carriers, 18 Louden Die-Handling Cranes speed operation, simplify handling, utilize the "airlanes" above, make more space below available for production processes, save manpower, cut costs, increase production.

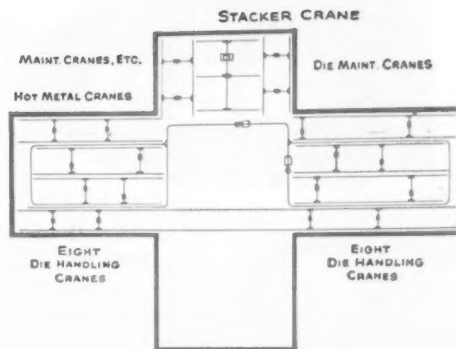
Louden can serve you equally well . . . in die-casting, in fabrication of parts, in manufacture of hose or anything else in the gamut of industrial operations. Louden engineering, experience and equipment can turn to greatest account the fundamental advantages of overhead handling. And you should not wait another moment to see what Louden recommendations can do for you. Write, phone or wire today.

THE LOUDEN MACHINERY COMPANY

6305 Broadway, Fairfield, Iowa

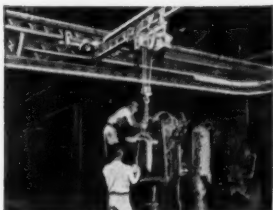
A Subsidiary of Mechanical Handling Systems, Inc.

SINCE 1867...THE FIRST NAME IN MATERIALS HANDLING

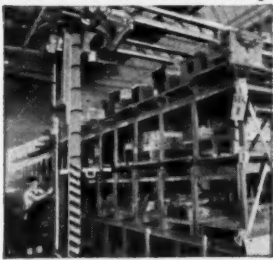


Plan of handling operations in Johnson Motors Plant. At top is die storage and maintenance served by one Louden Stacker Crane and 4 Louden Maintenance Cranes. On either wing, rows of die-casting machines are served by 16 Louden Die-Handling Cranes and two Louden Hot Metal Carriers. Space in center will eventually be occupied by more die-casting machines also to be served by Louden Cranes.

Needed precise control of the ladles of molten aluminum is furnished by Louden. This and another Louden Hot Metal Carrier serve 65 die-casting machines.



Louden Cranes help remove dies from casting machines, handle "bull labor" in maintenance and cleaning.



Louden Stacker Crane removes die from storage, has doubled the capacity of the storage area.

Louden
MONORAIL & CRANES

Circle No. 107 on Reader Service Card for more information

MEN

in the

NEWS



John A. Rado

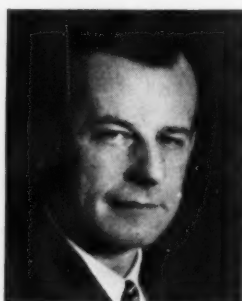
At **Diamond Power Specialty Corporation** . . . **John A. Rado** has been appointed Chief Engineer of the Electronics Department. Rado comes to Diamond from the Telechrome Manufacturing Corporation where he was assistant chief engineer. His television career began in 1936

when he joined the Columbia Broadcasting System. Later he was with Hazeltine Corporation, developing TV receivers and test equipment. During the war he contributed to the development of IFF equipment for the armed forces and, after the war, spent several years with the Federal Telecommunications Laboratories and the New London Instrument Company. In 1950 he returned to Hazeltine as a member of the advanced research group.

At **Phillips Control Corporation** . . . **Fred L. Schwab** has been named general sales manager and **Stanley McClean**, works manager. Schwab, who for five years was in charge of Eastern Division Sales in New York, will headquarter in the Joliet offices. McClean will direct production activities of the two Joliet plants and the Puerto Rico plant. He was formerly Comptroller and Assistant Secretary-Treasurer.

At **The Goodyear Tire and Rubber Company** . . . **John J. Hartz**, has been named development manager for all tire and manufacturing divisions of the company. In his new assignment, Hartz will oversee all phases of the company's tire development and compounding programs. His experience includes more than 16 years in the development of compounds for tires, tubes and accessories.

Enoch J. Bartlett died recently in his home in Lakewood, Ohio, at the age of 78. He was president of the Baker-Raulang Company from 1925 to 1948. Mr. Bartlett came to Cleveland in 1908 with the Long Arm Company. In 1911 he became sales manager for the Baker Vehicle Company in its electric road truck department. In 1919 Mr. Bartlett was made general manager and elected vice president.

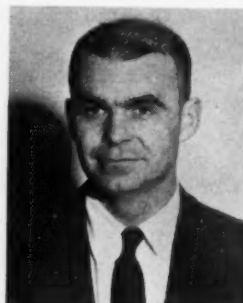


Harry Barnhart



Milton Steinbach

At **Baldwin-Lima-Hamilton Corporation** . . . Elected to the board of directors of the company were: **Milton Steinbach**, New York City, member of Wertheim and Company, Wall Street brokerage firm, and **Henry Barnhart**, Lima, Ohio, vice president in charge of B-L-H Construction Equipment Division. Barnhart, a native of Marion, Ohio, graduated from Notre Dame and Harvard Universities. Steinbach, native of New Haven, Connecticut, attended Phillips-Andover Academy and graduated from Yale University.



Jack J. Begley

At **The Colson Corporation** . . . **Jack J. Begley** has been named assistant to vice president, as reported by **Robert A. Pritzker**, president. Most recently, Begley has been senior consultant with Booz, Allen, and Hamilton, management consultants. Prior to that, he was supervisor in the technical services section of the manufacturing engineering department of the Ford Motor Company's Kansas City Aircraft Plant.

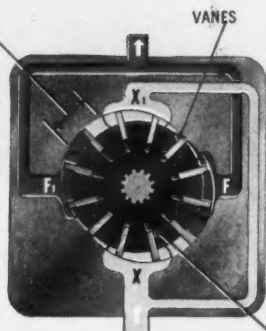
At **Coventry Climax Engines Ltd.** . . . Recently appointed to the Coventry board of directors were **F. Cotton** and **R. P. Lister**. Cotton, now director of production engineering, joined the company in 1925. He worked in several departments before joining the production department. He was a co-founder of the Coventry Graduate Section of the Institution of Production Engineers and is a member of the Coventry Engineering Society. Lister joined the company in 1951, coming from the Massey-Harris Co. in Canada. He studied at Cambridge University and Harvard, and will head the company's service department.

Question: Why are **VICKERS** Balanced Vane Pumps the most widely used oil hydraulic power pumps on mobile equipment?

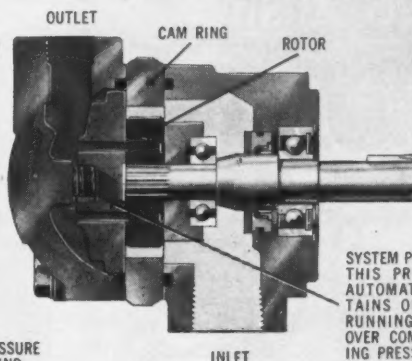
MILLIONS OF VICKERS VANE TYPE PUMPS ARE RUNNING EVERY DAY

TRUE CIRCLE ARCS BETWEEN PORTS PREVENT RADIAL VANE MOVEMENT WHILE PUMPING LOAD IS IMPOSED UPON VANE

PUMPING PRESSURES WHICH WOULD OTHERWISE PRODUCE BEARING LOADS ARE CANCELLED OUT BY EQUAL AND OPPOSING PRESSURE AREAS (PORTS F=F₁, AND X=X₁)



WORKING PRESSURE IMPOSED BEHIND ALL VANES



SYSTEM PRESSURE BEHIND THIS PRESSURE PLATE AUTOMATICALLY MAINTAINS OPTIMUM AXIAL RUNNING CLEARANCES OVER COMPLETE OPERATING PRESSURE RANGE.

Answer: Because of their SUPERIOR PERFORMANCE and MANY OTHER BENEFITS for the user.

For more than two decades, the Vickers Balanced Vane Type has held the leading position among hydraulic power pumps . . . growing steadily in popularity. The various models (only a few shown below) are the most widely used of all pumps in oil hydraulic service on mobile equipment.

The many advantages listed hereafter merit the thoughtful attention of anyone concerned with the selection and use of oil hydraulic pumps for construction, automotive, agricultural and materials handling equipment.

COMPLETE HYDRAULIC BALANCE—Each inlet and outlet port is balanced by another equal in size and radially opposite . . . pressure-induced bearing loads are thus eliminated.

VICKERS INCORPORATED DIVISION OF SPERRY RAND CORPORATION ADMINISTRATIVE AND ENGINEERING CENTER Department 1538 • Detroit 32, Michigan

Application Engineering Offices: ATLANTA • CHICAGO
CINCINNATI • CLEVELAND • DETROIT • HOUSTON • LOS
ANGELES AREA (El Segundo) • MINNEAPOLIS • NEW YORK
AREA (Summit, N.J.) • PHILADELPHIA AREA (Media)
PITTSBURGH AREA (Mt. Lebanon) • PORTLAND, ORE.
ROCHESTER • ROCKFORD • SAN FRANCISCO AREA (Berkeley)
SEATTLE • ST. LOUIS • TULSA • WASHINGTON
WORCESTER
IN CANADA: Vickers-Sperry of Canada, Ltd., Toronto

OPTIMUM RUNNING CLEARANCES—Both radial and axial clearances are automatically maintained over complete operating pressure range and throughout pump life.

FLOATING ROTOR DRIVE—Rotor is free to float, for correct centering and alignment, on a rigidly supported spline.

TRUE-CIRCLE CAM ARCS between ports prevent radial vane movement while pumping load is imposed upon vanes. Wear between vanes and rotor is thus practically eliminated.

EASIER COLD WEATHER STARTING—At normal engine starting speeds vanes are retracted . . . centrifugal force is insufficient to throw vanes outward into operating position . . . thus no pumping action takes place and pump drag on starting engine or motor is nonexistent. Only after engine starts is speed sufficient to extend vanes and begin pumping.

GREATER INSTALLATION ADAPTABILITY—Various types of mountings and four optional positions of pressure outlet connection. By unbolting and rotating pump head, the outlet can be placed parallel, opposite to or at a right angle in either direction to inlet. Shaft drive is in either direction depending only on internal assembly. Pump can be driven by belt, chain, gear or directly coupled.

HIGHER EFFICIENCY—Tests prove exceptionally high volumetric and overall efficiency . . . not only when pump is new but also after long service.

AUTOMATIC WEAR COMPENSATION—Vaness are held in contact with the cam ring by centrifugal force and hydraulic pressure. If wear occurs, vanes revolve in a slightly larger orbit without appreciable change in performance.

TEMPERATURE ADAPTABILITY—Correct running clearances are automatically maintained which compensate for wide variation in oil viscosity resulting from temperature variation.

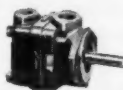
MINIMUM MAINTENANCE—Hydraulic balance . . . optimum running clearances . . . floating rotor drive . . . automatic wear compensation eliminate the most important causes for maintenance and repair.

LONGER LIFE—The numerous features mentioned above that keep down maintenance also contribute to longer life.

COMPACT—These pumps occupy very little space in proportion to their capacities.

CONSTRUCTION SIMPLICITY is evident from the illustrations above. This simplicity is another reason for the superiority of Vickers Vane Pumps. For further information, ask for Bulletin M-5101.

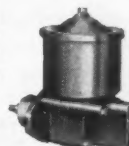
Single pump available in five basic case sizes having 15 normal delivery ratings. Operating pressures to 1500 psi (two largest units to 1000 psi).



Double pump for operating two independent hydraulic circuits from one power source. Available in 38 combinations. Operating pressures to 1500 psi (two largest units to 1000 psi).



"Package" type pump with integral volume control and relief valve, and oil reservoir; also available without oil reservoir. See Bulletin M-5107. (This pump only.)

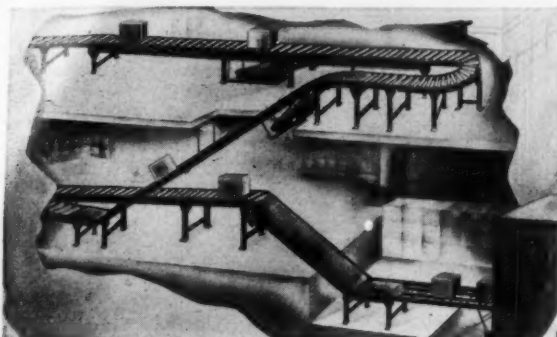


ALL MODELS HAVE THE VICKERS ADVANTAGES MENTIONED ABOVE

7353

Circle No. 185 on Reader Service Card for more information

THE NEW LAMSON ERECTO conveyor units



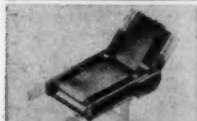
This illustration shows one of the thousands of possible combinations using Lamson Pre-Engineered Conveyor Units.

SAVE YOU ENGINEERING COSTS INSTALLATION COSTS

For Every Type of Layout Lamson offers 4 types of Pre-Engineered Conveyor Units: Roller Gravity, Wheel Gravity, Belt and Live Roll Conveyors.



Center Drive



Chain Driven Tail Belt



Roller Gravity Conveyor

Write today for your free booklet which shows how you can save engineering and installation costs and time . . . with Lamson Erecto Conveyor Units. MAIL THIS COUPON TODAY!

Designed By You . . . Installed By You!

You can combine Lamson Erecto Conveyor Units into whatever type of system your materials handling requires. Your Lamson Dealer will help you plan a Lamson Erecto Conveyor system tailored to your plant layout. Your regular personnel can install Lamson Erecto Conveyor Units with ordinary tools.

As Flexible As Your Future!


You can quickly adapt to new conditions in material handling by relocating the units . . . by expanding or shortening the system. The flexibility of Lamson Erecto Conveyor Units allows you to plan your present system with an eye toward future expansion. All parts are standardized for easy addition or replacement.

Ruggedly Constructed!

Lamson Erecto Conveyor Units are built of precision-balanced rolls, formed steel channel supports and tough, sturdy frames. Lamson Erecto Conveyor Units are designed for long-lasting life. They provide fast, efficient flow of materials at greatly reduced costs.

Speedy Delivery!

Your Lamson Erecto Conveyor Units arrive on the job shortly after your order has been placed.



Lamson Corporation
2445 1/2 Lamson Street, Syracuse, New York

Gentlemen: Please send me a free copy of your booklet describing Lamson Erecto Conveyor Units.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

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50

MEN IN THE NEWS

Continued

At Salem-Brosius, Inc. . . . James M. Phillips has been elected vice president of engineering, it was announced by Ward A. Wickwire, Jr., president. Phillips has been chief engineer of the company since July, 1955, and prior to that time had been vice president of Phillips Corporation.



James M. Phillips

At Heppenstall Company . . . George W. Blackmore has been appointed manager of the company's Material Handling Division at New Brighton, Pa. Blackmore was the owner of the Automatic Gas Equipment Company which he established in 1922. During World War II, he was employed at the Eddystone Plant of the Heppenstall company.



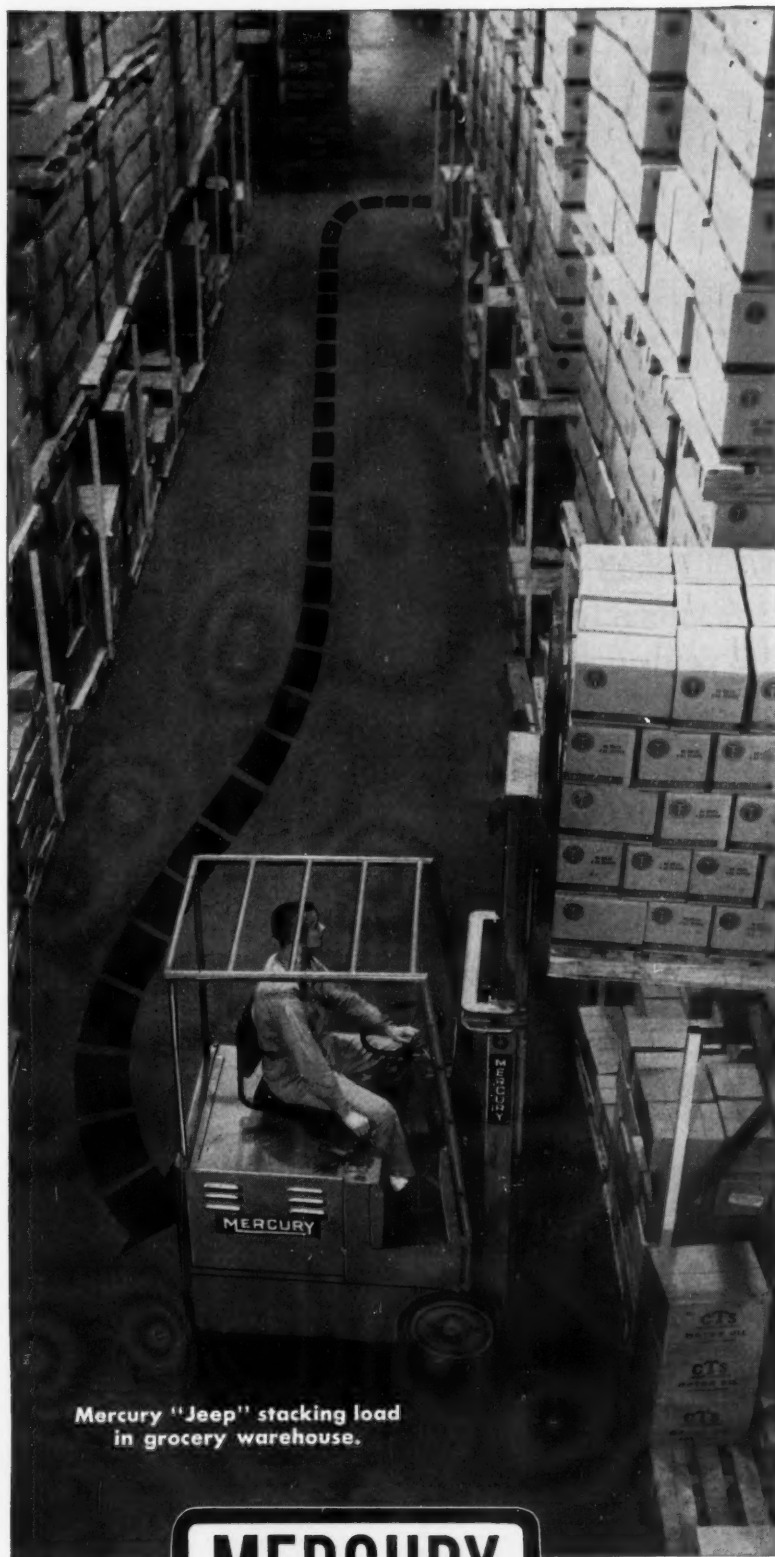
George W. Blackmore

At The Heil Company . . . L. B. McKnight has been elected director. He has been a director of Chain-Belt Company since 1948 and president since 1953, and was recently elected trustee of Northwestern Mutual Life Insurance Company. He also serves on the board of Safeway Steel Products, Inc.

At Fort Worth Steel & Machinery Company . . . Elected as new members of the board of directors were Joe B. Hogsett and M. J. Neeley. Hogsett is board chairman of several other companies and is president of the Tarrant County Water Control and Improvement District No. 1. He is also on the board of directors of the Fort Worth National Bank and Fort Worth Savings and Loan Association. Neely was president of Hobbs Manufacturing Company from 1932 until his retirement last November. He is also a trustee of Texas Christian University and a chairman and member of several other committees of the University.

(Continued on page 140)

FLOW



Mercury "Jeep" stacking load
in grocery warehouse.

MERCURY

FORK TRUCKS • TRACTORS • TRAILERS

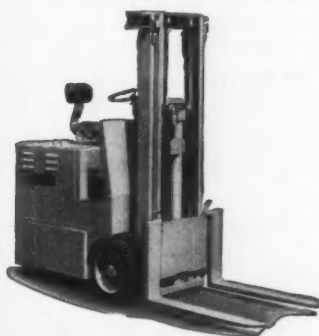
MERCURY MANUFACTURING COMPANY

4154 South Halsted Street • Chicago 9, Illinois

For a man-size job... use MAN-SIZE TRUCKS!

Moving large volumes of material quickly and at low cost is a MAN SIZE job requiring MERCURY'S MAN SIZE Fork Trucks.

Mercury fork trucks negotiate narrow aisles at safe, high productive speeds without damage to products . . . maneuver material into position with dexterity . . . and hoist loads to ceiling height quickly and easily. Save operating hours with MERCURY Fork Trucks, equipped with a power source that permits top work performance ALL DAY LONG. Mercury invites you to investigate its Fork Truck line before you buy.



MERCURY "JEEP"
FORK TRUCK

Model 230—Capacity 2000 lbs.
Other models to 8000 lbs.

ASK FOR THE FACTS TODAY!

Write for FREE literature describing MERCURY'S complete line of fork trucks, tractors and trailers.

INCHING CONTROL!



**For Your
BIG LIFTS
(3-25 Tons)**

LETOURNEAU HOISTS
**Give Instant Load Control,
End Costly Overtravel**

Instantly-controlled load travel — down to a fraction-of-an-inch — is standard on all LeTourneau Hoists. Instantaneous, maximum torque delivered by LeTourneau Electric Motor assures load lifting power for even momentary intervals. Big, powerful brakes stop capacity lifts immediately when switch is released. This instant response of motor and brake combination permits quicker, safer spotting of heavy, expensive loads.

SAFE HANDLING extends to long lifts, too, because regenerative electric braking built into LeTourneau Electric Motors holds even capacity loads at a safe lowering speed. Operator works with more assurance, gets job done faster because he is freed of overspeed and overtravel worries.

ALL WELDED STEEL construction keeps weight at minimum, provides rugged, compact hoist for installations where headroom is critical.

TROLLEYS are motorized, hand-g geared, or plain. Wide range of capacities in other frame sizes available to fit your needs.

*Send us your specifications for prices and delivery,
or mail coupon below for additional information.*



R. G. LETOURNEAU INC
Longview, Texas

R. G. LeTourneau, Inc.
2635 So. MacArthur, Longview, Texas

() Please send literature on LeTourneau Hoists () We are interested in distributorship for LeTourneau Hoists. () Please have representative call.

Name _____

Title _____

Company _____

Address _____

City _____ State or Province _____

F-114

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CALENDAR OF EVENTS

May 9-11

Western Material Handling Show
Western Livestock Exhibition Auditorium
Los Angeles, California

May 9-19

Mechanical Handling Exhibition & Convention
Earls Court
London, England

May 14-17

Design Engineering Show
Convention Hall
Philadelphia, Pennsylvania

May 17-19

7th National Conference and Convention of the American Institute of Industrial Engineers
The Shoreham Hotel
Washington, D. C.

June 5-8

The Material Handling Institute's Exposition of 1956
Public Auditorium
Cleveland, Ohio

June 11-15

1956 National Plastics Exposition
The New Coliseum
New York, New York

June 12-15

Annual Cornell University Industrial Engineering Seminars
Ithaca, N. Y.

July 10-12

6th Western Packaging and Material Handling Exposition
Pan Pacific Auditorium
Los Angeles, California

September 11-14

The Packaging Machinery and Materials Exposition of 1956
Cleveland Public Auditorium
Cleveland, Ohio

September 17-21

11th Annual Instrument-Automation Conference and Exhibit
The New Coliseum
New York, N. Y.

October 10-12

The Material Handling Institute's Fall Meeting
The Traymore Hotel
Atlantic City, N. J.

October 23-25

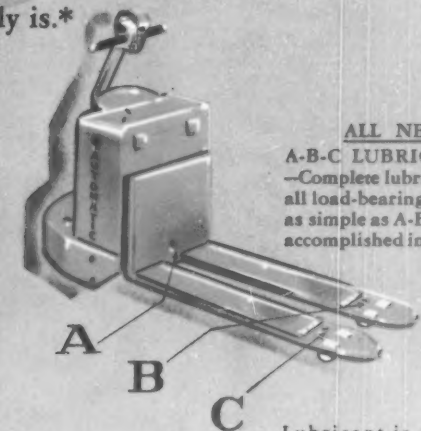
National Packaging and Material Handling Exposition
Kiel Auditorium
St. Louis, Missouri

Another Automatic First In Maneuverability and Ease of Maintenance!

...The Completely Redesigned **Transporter**

Here's an outstanding achievement in the industry's longest line of engineering "firsts." From "stem to stern" and inside out, it is new in every important detail. Every change, moreover, is functional and basic—a definite improvement designed to make this new TRANSPORTER superior in performance to anything else in its field. A few of its more important innovations are described herein but only by seeing this *All New Transporter* in action can you fully realize what an engineering advancement it really is.*

ALL NEW PALLET-CHEK—Ends need in most cases for costly chamfering of end boards in double faced pallets. Illustration shows how leading pawl engages inside lower face of pallet. Spring action keeps front wheels from pushing pallet ahead of truck...wheels roll smoothly inside pallet. In withdrawing from pallet, operation is reversed.



**ALL NEW
A-B-C LUBRICATION**
—Complete lubrication of all load-bearing points is as simple as A-B-C and is accomplished in seconds.

Lubricant is applied regularly at only 3 points —all easily accessible—and is automatically distributed to every point of need. A fourth point at base of handle needs lubrication only 2 or 3 times a year.

ALL NEW ULTRA COMPACT DESIGN—Here is the most compact operator-led truck of them all—yet no compromise has been made at any point in order to gain reduction in over-all length. Uses standard battery interchangeable with batteries already in use. New streamlined design reduces aisle space requirements...makes for easier maneuvering in tight quarters.

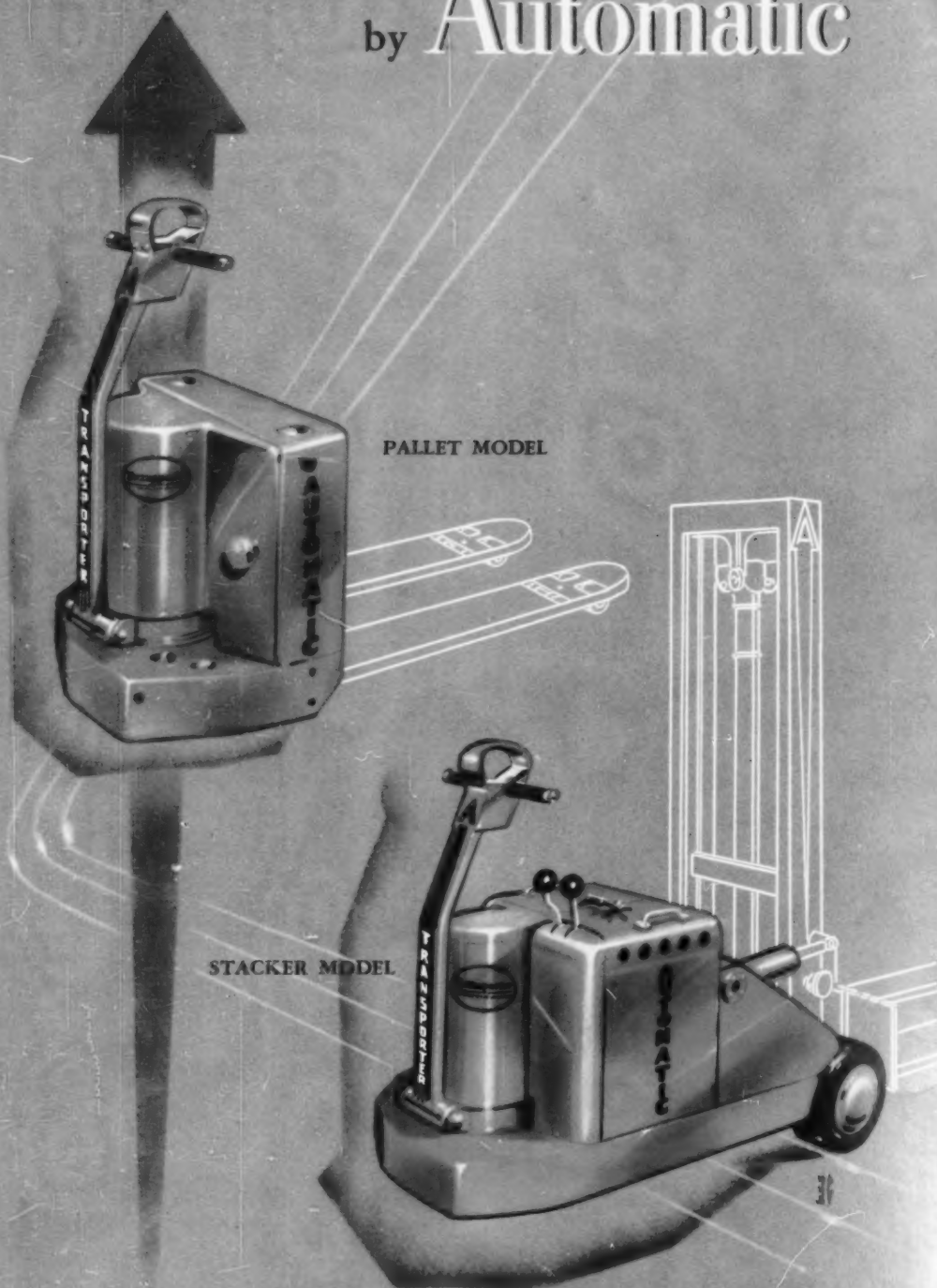
Turn to Page 4 of this Insert for Still More ALL NEW Automatic Transporter Features

*See the **ALL-NEW TRANSPORTER** demonstrated at the Materials Handling Institute's Exposition—Cleveland—June 5 to 8—Booth #1234.

ONLY 21½"
USING 8¼" BATTERY SPACE

PLUS LOAD LENGTH

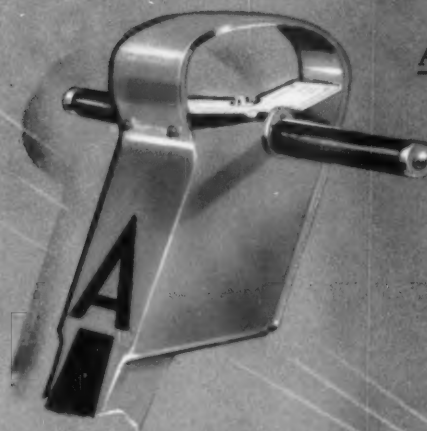
Presenting the
ALL NEW
Transporter
 by Automatic



PALLET MODEL

STACKER MODEL

...More exclusive innovations in the
ALL NEW Automatic Transporter

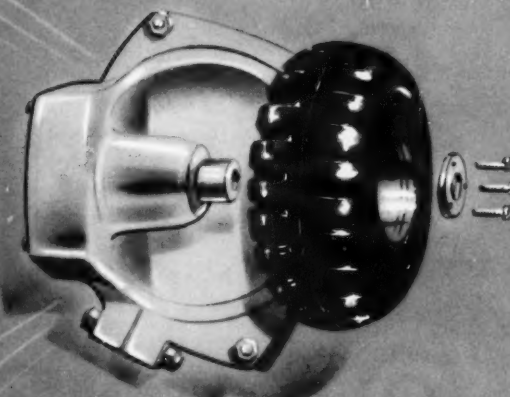


ALL NEW 3-SPEED BUTTERFLY CONTROL

New 3-step control, forward and reverse, permits operator to "inch" his truck with smoothness and precision never before possible. Prevents too-fast starts—a common cause of accidents —gives operator complete control of speed at all times.

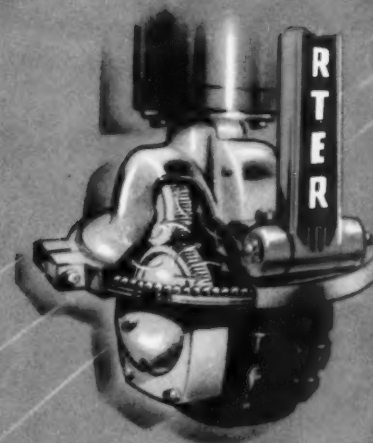
ALL NEW QUICK-OFF DRIVE WHEEL

Permits drive wheel tire change in as little as three minutes! Simply remove the steel plate that holds wheel in place, reverse it and it becomes an effective wheel puller. No special tools needed. An exclusive Transporter feature!



ALL NEW AUTOMATIC LUBRICATION OF ALL PARTS IN POWER HEAD

Moving parts in the New Transporter's all gear-driven power head, including the fully shielded ball bearing race for smooth and easy steering, are all lubricated automatically by oil in the housing.



The new, improved features described in this insert assure for the *All New Automatic TRANSPORTER* a new standard of performance. If an operator-led truck is indicated for any job in your plant —don't fail to send for complete specifications. No obligation. Mail coupon today.

Automatic 141 West 87th Street—Dept. E6
 Chicago 20, Illinois

Without obligation, send me full specifications on the *All New Automatic TRANSPORTER*.

Firm.....

By..... Title.....

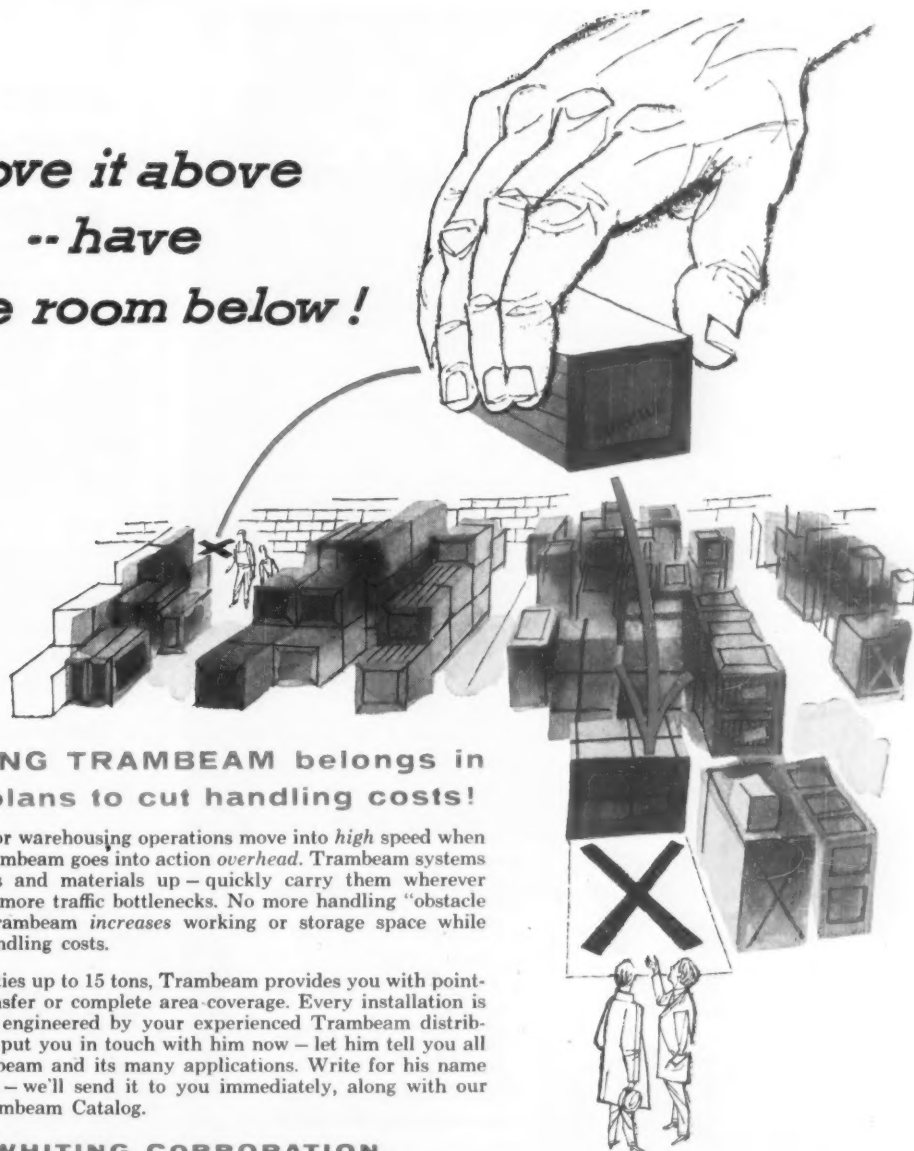
City & Zone..... State.....

LITHO IN U.S.A.

50th
Automatic
Anniversary

**WORLD'S LARGEST EXCLUSIVE BUILDER
 OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS**

***Move it above
-- have
more room below !***



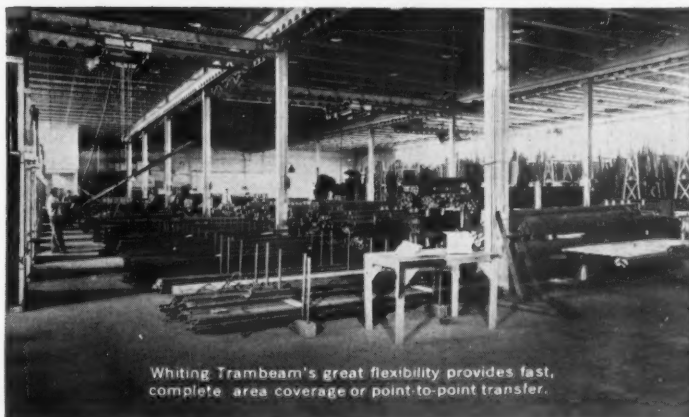
**WHITING TRAMBEAM belongs in
your plans to cut handling costs!**

Production or warehousing operations move into *high* speed when Whiting Trambeam goes into action *overhead*. Trambeam systems lift products and materials up — quickly carry them wherever desired. No more traffic bottlenecks. No more handling "obstacle courses." Trambeam *increases* working or storage space while reducing handling costs.

With capacities up to 15 tons, Trambeam provides you with point-to-point transfer or complete area-coverage. Every installation is individually engineered by your experienced Trambeam distributor. Let us put you in touch with him now — let him tell you all about Trambeam and its many applications. Write for his name and address — we'll send it to you immediately, along with our 24-page Trambeam Catalog.

WHITING CORPORATION
15659 Lathrop Avenue, Harvey, Illinois

WHITING Manufactures Cranes, Trackmobiles,
Trambeam Handling Systems; Foundry, Railroad
and Chemical Processing Equipment.



Whiting Trambeam's great flexibility provides fast, complete area coverage or point-to-point transfer.

WHITING
TRAMBEAM

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← Circle 21 on Reader Service Card

a great name in lift trucks
Hydro^{Electric}

... this powerful electric tractor hauls
 one or more trailing units with speed, safety
 and ease of operation.



Quiet and safe enough
 for hospitals—yet rugged
 enough for steel mills.

The one big difference in lift trucks is the
 exclusive Dyna-Dual power unit of the Hydroelectric



Hydroelectric moves more
 goods, quicker, easier and
 safer anywhere at less cost.

- 2 Drive Wheels instead of one
- 4 Wheel Stability instead of three
- Alloy Gear Transmission instead of chains
- 100% more Steering Ease—Greater Maneuverability
- 50% less Maintenance—Easy Accessibility
- Finger-Tip Control—Greater Safety

We invite you to learn more about it by writing for Catalog No. 65.

STUEBING Designed • Engineered • Built

LIFT TRUCKS, INC., / CINCINNATI 14, OHIO



THERE IS A TRUCK FOR EVERY PURPOSE TO HANDLE ANY KIND OF MATERIAL.

Circle No. 64 on Reader Service Card for more information

**ASSOCIATION
 and
 SOCIETY
 NEWS**

• "Whats on the Horizon" was the theme of this year's recent 6th Annual Material Handling Forum co-sponsored by the New Jersey Chapter of the AMHS and the Stevens Institute of Technology. The talks were presented in three points of view by three authorities who outlined the newest practices in material handling and explained how these developments and trends will affect future planning and practices in material handling.

• Members attending a recent Missouri Division SIPMHE Meeting, heard William H. Sardo, Jr., Secretary-Manager of National Wooden Pallet Manufacturers' Association, speak on "The Importance of Construction to Pallet Purchasing Policies".

• The Society for Advancement of Management will hold a Material Handling Conference at the Hotel Statler, New York, on May 17 and 18. The theme of the conference will be "Mechanized Material Handling". The speakers will talk on significant engineering and management considerations in material handling, equipment and controls needed, and case examples of successful applications.

• The Southern California Division of SIPMHE recently held a "Claim Clinic" conducted by John M. Miller, executive secretary, National Freight Claim Council, American Trucking Association, Inc., Washington, D. C., for motor carrier representatives. Other speakers included Frank G. Reed, Captain W. S. Dodge, and Jack Coveny.

● **20th Anniversary** National Time and Motion and Management Clinic sponsored by the Industrial Management Society will be held October 31, November 1 and 2, at the Sherman Hotel, Chicago. Top-flight experts will discuss the latest developments in the fields of time study, motion economy and job evaluation.

● **George G. Raymond, Jr.**, president of The Material Handling Institute and president of the Raymond Corp. has announced the formation of seven basic MHI committees for 1956. The committees and their chairmen are: Exposition and Technical Sessions, R. I. Fairbank, general sales manager, Towmotor Corp.; Budget and Finance, J. W. Stiles, president, Island Equipment Corp.; Educational Committee, C. L. Fell, vice president of marketing, The American MonoRail Co.; Engineering and Management Corporation Committee, J. G. Bucuss, Acme Steel Co.; Membership, S. W. Gibb, vice president of sales, C & D Batteries, Inc.; Professional Society Cooperation, M. V. Heinritz, vice president, Gould National Batteries, Inc.; Public Relations Committee, G. B. Davis, sales manager, Baker-Raulang Co.

● **A tour** through the Carling Brewing Co. plant was conducted recently as part of the monthly meeting program of the Cleveland Chapter of AMHS. A nomination blank for the 1955 annual awards for the best material handling installation in Northeastern Ohio was issued, and the awards will be made at the next meeting.

● **F. J. Dunleavy**, Yale & Towne Mfg. Company, was elected 1956 president of the Association of Lift Truck and Portable Elevator Manufacturers at the Association's recent meeting in New York. H. S. Germond, III, Revolver Co., was elected vice president, and R. Kennedy Hanson, Hanson & Shea, was elected secretary and treasurer.



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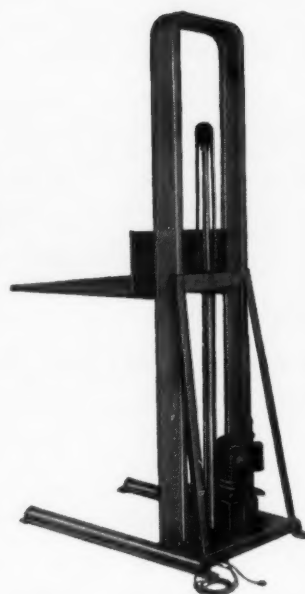




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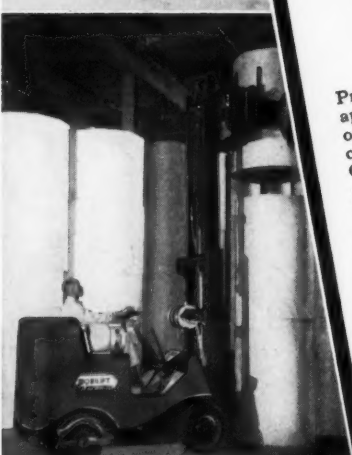
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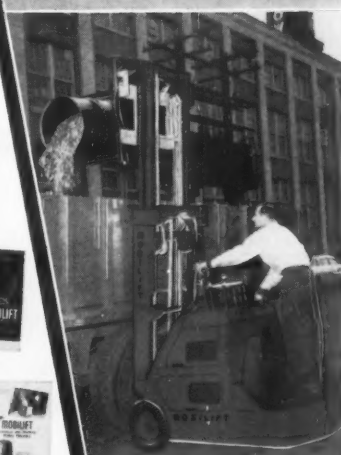
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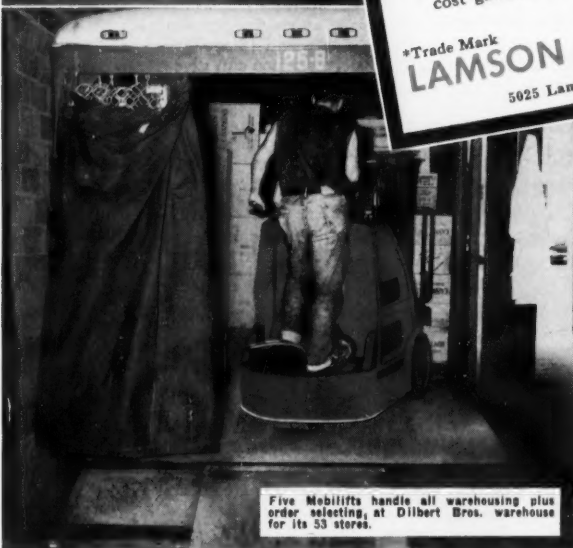
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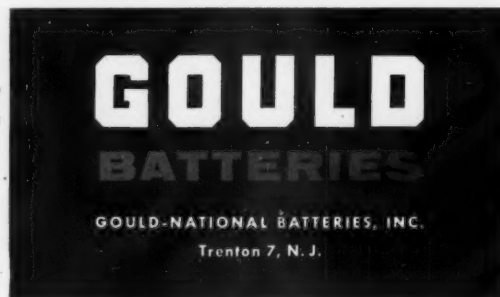


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FLOW



As a Material Handling Man, Do You Know

“Your Responsibility for Company Profits”

By John T. Garrity
McKinsey & Company
New York, N. Y.

“The material handling executive can discharge his tremendously important role—at any phase of the business cycle—if he joins to his technical skill an informed, imaginative profit point of view.”

ALL STATISTICS indicate that our economy is continuing to operate at a high level. But we all know that is no reason for business to relax its vigilance in the search for profit opportunities. There is as much need as ever to be continually on the lookout for more and greater profit opportunities.

Top management is not alone in this challenge. It is the responsibility of every member of a business organization. The purpose and measure of every company is its long-term profitability, and every act of every one in the company has an effect on earnings. Every action can be a “profit action”—either *positively*, by producing more income; or *negatively*, by preventing a decline in income. To be sure, the broader the man’s authority, the greater is his impact on profits, but every man—no matter how limited his job—has profit responsibility.

Furthermore, this profit responsibility falls on line and staff personnel alike. The salesman, the production superintendent, and other people in “operations”—because of the nature of their duties—are constantly making administrative decisions which directly affect profits. Staff groups, such as those concerned with material handling, also make some day-to-day “profit” decisions. But their major contribution comes from the actions they take that show results over the long term. They are valuable because they can focus attention on their own and others’ problem areas with the greatest profit opportunities, and can develop recommendations which will help operating personnel to get the most out of such recommendations.

In view of this organization-wide responsibility, many companies have found that, to be sure they are cashing in on profit opportunities, they must see that all responsible members of the organization have the following equipment:

1. A knowledge of what profits are.
2. The habit of thinking in terms of profits.
3. The ability to measure profit contribution.
4. The information to keep track of profits.

(More on next page)

YOUR RESPONSIBILITY FOR PROFITS

Continued

PROFIT chart and profit curve show a varying profit structure when using new and old equipment under high and low volumes of production.

	(1)		(2)		(3)		(4)	
	Before the Proposed Equipment Purchase		What Preliminary Study Indicated Would Happen after the Proposed Equipment Purchase		But If Volume Dropped, the Profit Picture with the New Equipment Would Look Like This		Which Would Compare with This at the Lower Volume and with the Old Equipment	
	Per Unit	Total	Per Unit	Total	Per Unit	Total	Per Unit	Total
Sales Volume		1,000,000		1,000,000		800,000		800,000
Sales Income	\$1.00	\$1,000,000	\$1.00	\$1,000,000	\$1.00	\$800,000	\$1.00	\$800,000
Less:								
Fixed Costs	0.10	100,000	0.175	175,000	0.219	175,000	0.125	100,000
Variable Costs	0.833	833,000	0.750	750,000	0.750	600,000	0.833	666,400
Profit	0.067	67,000	0.075	75,000	0.033	25,000	0.042	33,600

What Are Profits?

Everyone knows that profit is income minus expenses. But when we make this statement, do we know enough about the behavior of our income and our expenses in relation to each other to say that we really know what goes into making profits?

There is no lack of examples of how an understanding of this relationship has helped many managements to make the best profit decisions.

In one company a packaging engineer advised against the purchase of a type of equipment, although a preliminary study had shown it would reduce variable costs by 10 percent and increase profits by 12 percent. The engineer, with the help of the accountants, went deeper into the subject and came up with proof that, over the long run, the equipment would not add to profits, as shown in illustrations above.

Before the proposed purchase, fixed costs were \$100,000 per month, and variable cost was \$0.833 per unit. At the existing monthly sales volume of one million pounds at \$1.00 a pound, company profits was \$67,000. With the new equipment variable costs would have been cut 10 per cent to \$0.75 per unit and profits increased to \$75,000, a 12 percent increase. True, fixed costs would rise to \$175,000 because of higher depreciation, higher fixed maintenance costs, higher insurance coverage, etc. But on the surface it looked as though it would be a case of spending money to make money.

The study was fine as far as it went. But the engineer's further research showed that the current volume of 1 million pounds was abnormally high and that, over the long run, sales were expected to run at about 800,000 pounds per month. At this lower level, to which sales did, indeed, fall about nine months later,

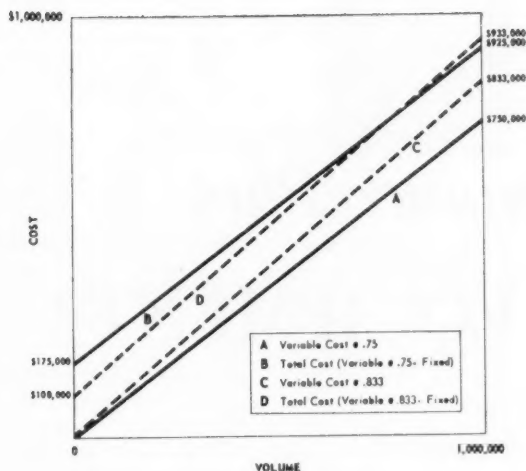
monthly profits with the new equipment would have been only about \$25,000, compared to \$34,000 under the old setup. The point of equal profits under the two setups was 900,000 pounds, and the company's sales projection could not foresee a growth to this level as the normal volume for another 5 to 10 years.

This staff executive kept on the track because he knew what profits were. If we are to make intelligent profit decisions and recommendations, we must know how costs and income behave in relation to each other. Unless we do understand this relationship, we will miss the profit boat in our efforts to raise income and cut costs.

(Editor's Note: The author's example is perfectly sound, but it is difficult to imagine, in actual practice, an installation that would not be completely worthwhile if it returned \$72,000 in nine months—most likely at least the entire cost of the equipment—and provided the productive capacity readily available upon demand of the marketing and sales departments.)

The Accountant Can Help

Because they are called upon to make recommendations to management that are of real significance, the engineer and the material handling man have a serious responsibility for understanding profit behavior. Unless they have this understanding, they will never be able to assume their share of responsibility for profits. If the accountant is considered when such decisions are made, the engineer increases his likelihood of making a positive profit contribution. The engineer may sometimes feel that the accountant is hiding behind technical accounting terminology. But with persistence on the part of the former and patience on part of the latter, the engineer can acquire enough knowledge of



his company's profit behavior to appreciate the full import of what he is talking about when he recommends an expenditure.

Profits Can Be Expensive

The second requisite for an understanding of what profits are is a realization that there is a cost to profits. This may seem paradoxical, in view of our earlier statement that profits are income minus expenses—that would imply that the cost is already accounted for.

But, in many cases, to get *more* profits, you must make an investment. The cost of the profits would come from the fact that it would take longer to recover the same investment from a lower return facility than from a higher.

For example, if your company's investment in facilities is \$1 million and your pretax profit is \$200,000, your return on investment is 20 percent. Let us say that you are considering adopting a new piece of equipment and that the investment required is \$100,000. If the pretax profit estimate is \$10,000, you have but a 10 percent return on your investment. Therefore, this equipment would in effect cost the company \$10,000 a year because judging from the company's past experience, there are 20 percent return opportunities available.

So, when you have an idea that will make more profits for the company, don't push ahead until you determine the yield cost. Ask yourself: "Does this project give us the return on investment that it should, or does past company experience lead me to believe that other, better opportunities exist for the use of these funds?"

One sure method of determining good investment policy is the length of time in which a new project will amortize itself. Many times the purchase of material handling equipment or new machines will reduce the direct or indirect cost immediately by improving production facilities or eliminating off-standard conditions. These expenditures, in many cases, will be amortized in a matter of months. Today especially, when our economy is geared to such a high level of production, there is little doubt as to the advisability of investing in new equipment once the profit picture is firmly established and the amortization period determined.

Thinking in Terms of Profits

Even people who know what profits are don't always think in terms of profits. Ask a packaging engineer how business is. He'll say, "Booming just redesigned our shipping carton for product A." Ask a sales manager how things are going. He'll say, "Swell; sales are up 20 percent." Ask a production man, "How's business?" He'll say, "Great; we turned out more goods last month than ever before." But there is more to each man's reply than meets the ear.

The engineer's new package was cheaper than the old one, but overall costs were higher—partly because he had not foreseen that more breakage would result in a larger number of customer returns and allowances, partly because his package had a poor effect on consumer acceptance of his company's product.

By pushing Product A, the sales manager had achieved all his 20 percent increase—which made a relatively small contribution to the ratio of variable costs to fixed costs and profits. The company might have been better off if his sales had been down 20 percent if, while losing Product A sales, he had gained a small increase in the sales of another product that made a greater contribution to fixed expense and profits.

How about the production man, who had just had his best month? He got the product out all right, but he worked his men overtime to do it, and he deferred a necessary machine repair to do it. So, in the long run his higher costs offset the profit on extra volume.

Thus, although each man was doing a fine job from his point of view, *over all* the company lost because each failed to think of his activity in terms of profits. In making long-range plans as in arriving at day-to-day decisions, it is essential to keep sight of company-wide profit contributions.

For example, members of the sales department in one company wanted a new local warehouse. They knew that the improved customer service would result in more sales in that locality. The greater inventory space would permit the economy of longer production runs at the plant. But when they went over the profit implications of the step with the accountants, certain facts came to light. In computing the investment, they would have to consider not only the cost of the warehouse but also the investment in the large inventory. Further, they would have to allow for a higher amount

(Continued on page 90)



What Maintenance Plan for HANDLING EQUIPMENT?

"Today, and tomorrow, we face the problem of maintaining production with our better understanding of material handling equipment, of its importance, and of its efficient maintenance."

THE INCREASING RATE at which we are spending time and talent to maintain the equipment of our industrial economy has served to highlight, even more than in the past, the importance of maintenance.

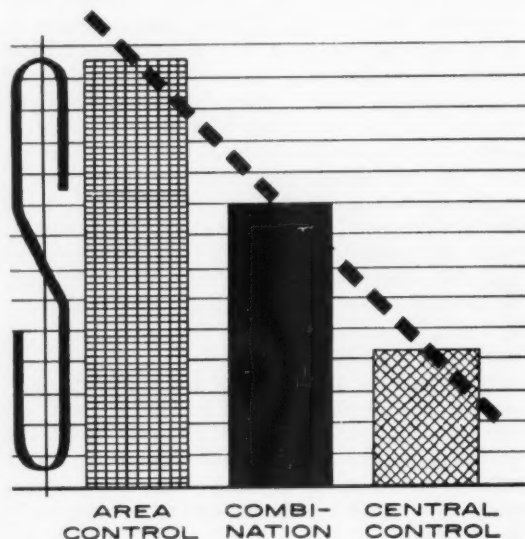
The nebulous character of maintenance—as compared with the manufacturing, distribution, or even finance—makes it a prime target to be nailed down by better controls. A properly planned and operated maintenance *control* system raises productivity, improves service, and reduces maintenance costs, even though no capital expenditures are made.

From the beginning to the end of our modern economy, material handling equipment must be maintained. In some cases the chain is dependent on an isolated piece of equipment and its performance—perhaps a tractor-trailer rig on some Mid-west highway. In other cases, the maze of interrelated material handling equipment alone is enough to confuse the casual observer. No longer can the production system be continued by throwing in brute strength to plug the gap caused by poorly maintained handling equipment. Today, and tomorrow, we face the problem of maintaining production with our better understanding of material handling equipment, of its importance, and of its efficient maintenance.

Of course, one of the important factors to be considered is original design. Here the "cause" rather than the "effect" can be treated. The careful coordination of effort between the men on design boards and

those in shop maintenance work will increase productivity and reduce downtime measurably. Maintenance can be designed out just as production increase are designed in.

For example, heat exchangers formerly were designed and constructed with no means, other than awkward access with a mobile crane, for pulling, removing



The author, E. G. FREMONT, is Managing Partner of The Emerson Engineers, which he joined as a young engineer in 1909. An internationally known authority on maintenance, he originated, in the early 1930's, a maintenance plan which is still in use in plants, oil refineries, and steel mills all over the world.



and replacing the tube bundle. For several years this method was employed for handling—even though it was common knowledge among the maintenance group that the remedy was simple. Eventually, word got back to the design people. Now the design of all large exchangers incorporates an eye-beam hoist arrangement, and devices have been provided on sides of exchangers for pulling tube bundles.

It has been said that to coordinate organizationally is to coordinate operationally. Not the least important in any scheme to improve the performance of material handling equipment is the analysis of the organizational set-up. What are its characteristics at the various levels: administrative, planning, supervisory? Does it lend itself to easy control and coordination? Is there an understanding throughout of the relative importance of the factors that go together to form the overall maintenance picture?

Consider the case of the maintenance planner who, for six months, slighted the operating foreman's request for pipefitting maintenance work because the re-

quested completion date on the work order was "when convenient". Yet, on numerous occasions, pipefitters unknowingly worked within 15 feet of this six-hour job.

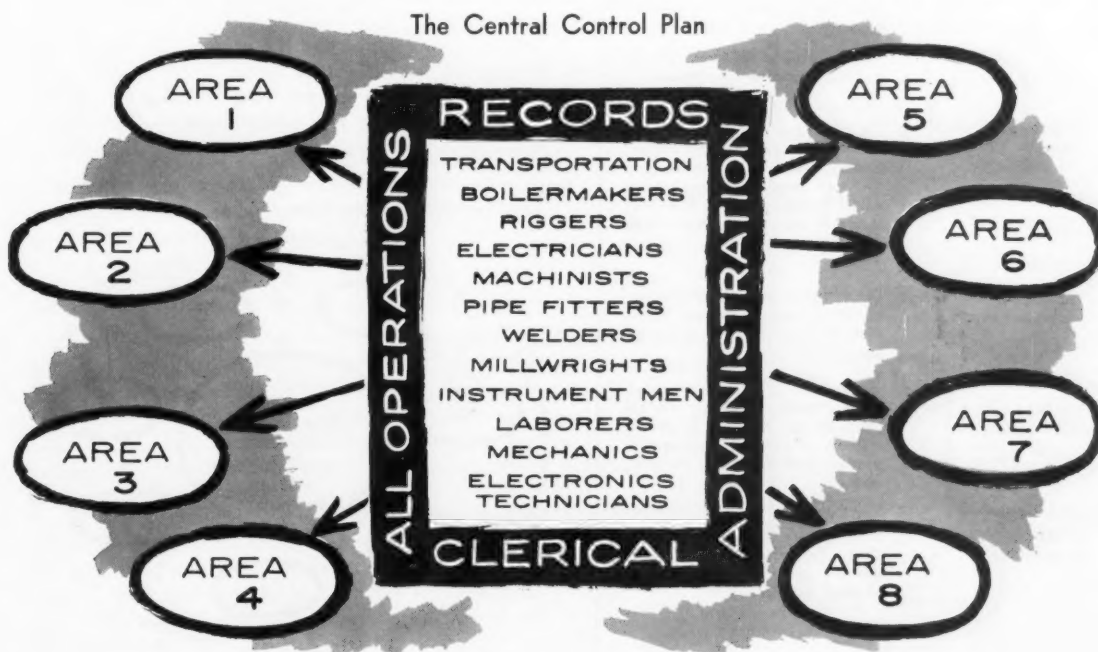
The effectiveness of any maintenance control system will be directly related to the caliber of people involved. If their efforts are facilitated organizationally, then much depends on their ability and motivation. To say that such and such an organization would be fitted for firms of such and such a size would be pure folly. The needs of each particular firm—even within itself, to a very large degree—will dictate the necessary organizational structure.

One growing tendency, however, is to establish a separate section to govern the planning, scheduling, dispatching and maintenance of self-propelled material handling equipment (trucks, straddle-carriers, auto-cranes, fork lifts, etc.). This seems only logical since much of the other type of material handling equipment fits so closely into the actual production phase (transfer machines, conveyors, palletizers, carton-machines, etc.). The maintenance of this type of equipment is directly related to the mechanical operation of the production equipment.

Area Vs. Centralized Maintenance

From an organizational standpoint, the question is asked whether this latter type of material handling equipment, along with the production equipment, should be maintained on an area basis or from a centralized maintenance set-up. "Area vs. Centralized Maintenance" has been a topic of discussion within the process industry for more than 20 years. It is safe

(More on next page)



Suggested Maintenance Procedures

Handling Equipment	Organization & Facilities
All electric motors used in material handling (or for any other purpose).	Decentralize periodic inspection. Centralize rewinding and major overhauls in an electric repair shop.
Automotive-type equipment: trucks, tractors, tractor-shovels, lift trucks, bull dozers, etc.	Central garage with periodic (weekly) cleaning, lube and inspection. Repairs and tuneup as indicated by inspection.
Heavy duty conveyors (such as steel mill run out tables).	Decentralized mechanical and electrical repair. Daily inspection and lube. Centralize major repairs such as new chains, rolls and sprockets.
Light conveyors including belt, wheel, and roller type.	Decentralized repair and inspection. Central shop to replace belting.
Rail locomotives, rail cranes; rail cars and all rolling stock used within the plant or mill.	Provide a centralized shop and crafts in a roundhouse equipped with overhead crane, pits, lube equipment for locomotives and propulsion machinery. Periodic inspection and overhaul are a requisite. The period depends upon usage. For cars and rolling stock, steel fabricating and welding facilities are required. Constant daily inspection in the field for all car safety devices is essential. Repairs are to be made as required by central car shop.
Overhead traveling cranes	Decentralized mechanical and electrical inspection and repair. Central shops to change rigging such as tracks, cables, drums and lifting devices. Central shops to change or alter wiring and electrical controls.
Skip hoists, car dumps, bucket conveyors.	Decentralize parts replacement, periodic inspection and lube. Central shops to make major repairs.
Trackage within plant.	Field repairs made by central shop forces assigned as required. Principal equipment used in maintenance is a rolling tool car.
Ships, barges, marine equipment	Centralized shipyard repair shops. Periodic inspection (semi-annual) and repairs made as indicated by inspection.

to say that no cure-all has been decided upon within this industry, even after all these years of discussion and trial. Some of the factors involved in evaluating one system against the other might be:

1. Type of Equipment
2. Geographics—Area Covered
3. Size of Operation
4. Limitations (union, supplies & materials)
5. Kind of Product
6. Supervisory Ability

Even after arriving at some carefully determined axioms concerning area vs. centralized maintenance, organizations will be found—more than occasionally—operating at about 90 percent of efficiency, although apparently in violation of these “axioms.” The relative worth of a change from one system to the other is never easily determined since the reasons for the change are rarely clean-cut. A complete transition may possibly take months or years. By then, it is difficult to measure the new against the old beyond its apparent expediency.

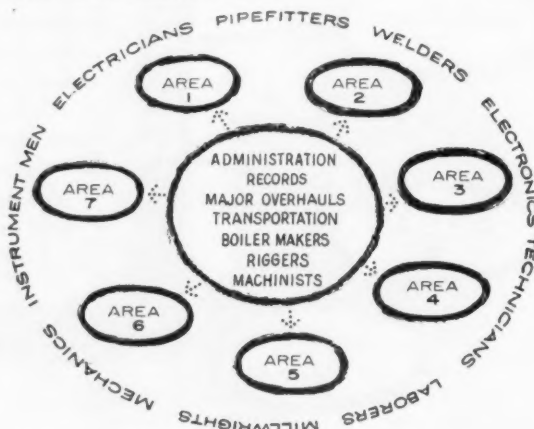
The fact that a strict area maintenance structure may be more expensive, from a control and utilization standpoint, is generally recognized. However, the more immediate coverage it offers over that of a centralized set-up may justify this expense.

A combination of the area concept coupled with the centralized theory may seem like a compromise, but actually it may hold the solution to many maintenance headaches. The accompanying tabulation indicates some thought in this direction.

The term “preventive maintenance” has assumed, in varying degrees, a slang usage. Oddly enough, it can be blamed by some for a poor maintenance showing. Actually, a properly functioning preventive maintenance program is based on a soundly planned schedule of inspection, adjustments, replacements and lubrication.

Some people argue that the prohibitive cost of such a program puts it out of reach. These people, mentally at least, have moved from “breakdown maintenance” to the other side of the see-saw—“breakdown elimination by continuous inspection.” It must be

The Combination Plan



"... by proper programming maintenance ... the effectiveness of material handling equipment can be increased ... from 20 to 50 percent."

understood that even a preventive maintenance program established at the mid point of the see-saw will cost money, but the eventual returns in lower maintenance costs and greater output more than justify its existence. Most material handling equipment manufacturers have pretty well established preventive maintenance procedures for their products. With these procedures as a guide, modified by the service for which the equipment is intended, a sound program can be established.

Records Are Basis for Sound Program

The basis for any sound program, particularly maintenance, is adequate records. Not merely paper work for the sake of having paper work, but records which facilitate the following:

1. Establishing maintenance budgets.
2. Improving maintenance procedures and scheduling.
3. Increasing production by reducing downtime.
4. Reducing maintenance costs by better control over:
 - a. Training
 - b. Standards
 - c. Spare parts
 - d. Design
 - e. Cost Consciousness
 - f. Safety
 - g. Equipment Replacement
 - h. Excessive Maintenance.
5. Justifying monetarily the maintenance organization and records kept.

The cultivation of a better understanding between the maintenance department and the comptroller's group is generally in order if the above procedure is going to be facilitated.

The ability to interpret these maintenance records is a prime requisite of management. It substantiates the feeling that, to get on with the task of bringing costs in line, it might be well to consider implementing the maintenance staffs with new talent.

Should Maintenance Be On Incentives?

Should we put our maintenance labor on incentives? Let us answer the question this way—yes, but be sure first that incentives serve a purpose. Establishing incentives on maintenance for the sake of balancing a wage structure is certainly not good policy. In some cases production wages have approached and surpassed craft wages. The foundation on which a maintenance incentive program is built will influence its eventual success or failure. Valid standards are important for the success of any incentive program—but unless the planning and scheduling of maintenance works smoothly and effectively, any incentive program will run into serious trouble.

Proper functioning of planning and scheduling in maintenance procedure can raise the efficiency of a maintenance operation, formerly operating without such measures, from the usual about 50 percent of effectiveness to 75 percent or better within six months to a year.

There are expended by maintenance personnel five types of effort that lend themselves well to control by planning and scheduling:

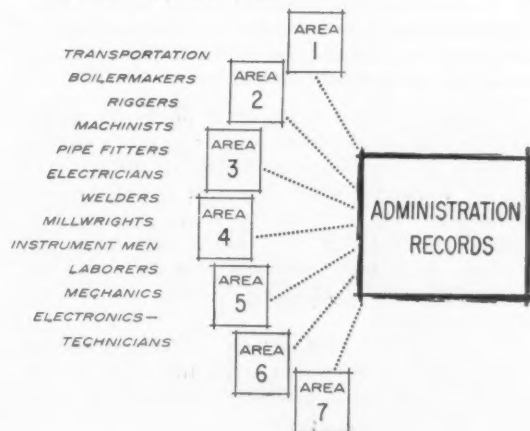
1. Preventive Maintenance
2. Routine Maintenance
3. Shutdown or Major Overhauls
4. Emergency Maintenance
5. Construction Work

The maintenance of material handling equipment, like that of all capital equipment, requires a certain amount of anticipation if emergency maintenance is to be minimized. In the case of a large machine shop operation—after establishing a realistic preventive maintenance program and properly planning routine maintenance on a daily basis—it was found that emergency maintenance, which at best is expensive, had been reduced from 95 percent of all maintenance done to a reasonable figure of 5 percent. The overall cost of maintenance was reduced over 20 percent in this case. Perhaps most important of all is this fact that production output increased.

This question of anticipation of maintenance needs is a two-way street. Just as the maintenance department head has reason to expect some consideration from the operating department, so must he give the same consideration to the distributor or manufacturer of the material handling equipment, on whom the firm may be dependent for service and repair. To want the required attention "yesterday" is unrealistic. It also indicates a probable breakdown within the system established to prevent such emergencies.

(Continued on page 100)

The Area Control Plan





There's no need for conflict.
Here's a plan for improving . . .

The Manufacturer —

THE MANUFACTURER SHOULD . . .

1. Provide equipment engineered to do the job safely.
2. Employ competent sales engineers to inform the user of available equipment and its specifications.
3. Provide experienced and technical personnel to assist the user in the solution of his problems relating to material handling.
4. Provide service facilities, parts and service personnel.
5. Keep in touch with the user.
6. Deliver equipment to the user on promised delivery dates.

THE six points listed above are offered as "tools" to be used by the manufacturer of material handling equipment. It is hoped they will be considered as constructive and helpful, not as destructive criticism. Let us take up each point in detail:

1. Provide equipment engineered to do the job safely.

This is most important as it is the undeniable responsibility of the manufacturer to place in the hands of the user equipment which has been (1) thoroughly engineered; (2) thoroughly safety checked (3) thoroughly field-tested in a user's plant where all concerned have been convinced that the equipment is right. This applies, of course, to any new or experimental equipment.

It is evident that most material handling equipment manufacturers have adhered to this first point, for the majority of industrial accidents are caused by careless or inexperienced operators.

2. Employ competent sales engineers to inform the user of equipment available and its specifications.

For reasons known only to themselves, some manufacturers do not consider this as a vitally important factor. That is unfortunate because the finest equipment can be designed and manufactured and yet not serve its purpose nor have an opportunity to perform its operation when the sales engineer who makes the initial contact is not qualified to discuss the equipment and its specifications with the user.

Many users now hire graduate engineers, or the equivalent from an experience standpoint, to be responsible for the material handling department. Therefore, it becomes necessary for the manufacturer to realize thoroughly his responsibility and to select his sales personnel with utmost care.

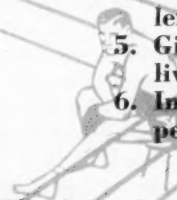
3. Provide experienced and technical personnel to
(Continued on page 70)

R. H. Weingartz, vice-president, Ken-Dick Corp., discusses a subject to which everyone has had to give some thought—the responsibility of the manufacturer of material handling equipment to the user and the responsibility of the user to the manufacturer. To present his controversial subject, Weingartz first lists the responsibilities of each group, then elaborates on each point, discussing in detail the ramifications of each.

User Relationship

THE USER SHOULD . . .

1. Grant to the manufacturer's representative the opportunity to present and demonstrate his equipment.
2. Give the representative an opportunity to assist in the solution of material handling problems.
3. Advise the representative of the performance of his equipment in the plant.
4. Advise the representative of service problems concerning his equipment.
5. Give the vendor ample time to make delivery.
6. Inform the representative as to the proper personnel to contact when calling.



SATISFACTORY relations between manufacturers and users of material handling equipment are dependent upon conscious cooperative efforts from both groups. The relationship can be bettered considerably if the points listed here are used by buyers as bases for all contacts with vendors.

1. *Grant to the manufacturer's representative the opportunity to present and demonstrate his equipment.*

Neglecting this responsibility can cost a user company a great deal of downtime and undue expense. Frequently, production and service problems can be helped immeasurably, or eliminated, if manufacturers are only given opportunities to present equipment, discuss advantages and demonstrate abilities to perform assigned operations.

Remember, the material handling equipment salesman is usually a highly trained sales engineer . . . treat him as such, not as a door-to-door salesman.

2. *Give the representative an opportunity to assist in the solution of material handling problems.*

This is a growing practice with user companies. A great number, however, have not taken advantage of the wealth of experience and ideas available to them through handling equipment firms. Most equipment manufacturers attempt to employ sales personnel who are experienced and know the details of equipment application. One method of tapping this knowledge is to allow the representative an opportunity to solve a specific problem, remembering, of course, to give him ample time and to present him with all available pertinent data. We cannot overemphasize the importance of being certain that the sales engineer has all the facts and understands the problem. This may require a good amount of explanation in instances where the specific problem is not at all familiar to the engineer. Often, the very fact that is new to him

(Continued on page 70)



The Manufacturer . . .
(Continued from page 68)

assist the user in the solution of his problems relating to material handling.

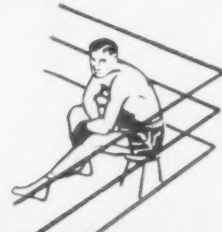
This is growing increasingly important because the product designed and produced is becoming more complex as mechanization increases in our homes, our jobs and our professions. Many users are developing and producing products which call for specialized handling during manufacture due, largely, to their finish, the precision demanded in manufacture and the competitive market existing today.

It is the goal of every user to place his product in the hands of the customer with a minimum of manual handling. It is not uncommon today for the manufacturer of material handling equipment to be called upon to assist in a problem of specialized handling, or to offer a complete solution after making a thorough survey. It is clear then that the individual representing the handling equipment manufacturer have a knowledge of basic engineering principles, be endowed with good common sense and know his company's equipment and its capabilities.

4. Provide service facilities, parts and service personnel.

While service of some sort is offered by the majority of manufacturers of material handling equipment, there are many instances where such is offered only as a token and, as a result, has caused many users to regret the purchase of a particular brand of equipment.

(Continued on page 132)



The User . . .
(Continued from page 69)

will greatly increase the value of the manufacturer representative in helping to solve a problem which previously resisted all solutions.

3. Advise the representative of the performance of his equipment in the plant.

A double responsibility is involved here. Before the user can advise as to how equipment is performing, the manufacturer representative must make repeated calls. During the course of a call, when an inquiry is made concerning performance of equipment, the user should be in a position to give intelligent information concerning mal-operation or defects. Many installations never perform their designed duties simply because the manufacturer has not been advised so that proper adjustments or, in unusual instances, replacements can be made.

Usually, it will be found that the manufacturer is eager to know exactly how his equipment is performing, for two reasons: (1) Where trouble has occurred, he can take steps to remedy it; (2) If equipment is performing as it should he can point with pride when discussing a similar application in another plant. Both incentives lead toward better results for users.

4. Advise the representative of service problems concerning his equipment.

Growing complexity of equipment makes this responsibility more vital every day. Often plant maintenance men must be trained in mechanics, hydraulics,

(Continued on page 133)



R. H. WEINGARTZ is ideally suited to write an article on what manufacturers and users of material handling equipment should expect from each other. He has done outstanding engineering work in both categories. At present he is vice-president of Ken-Dick Corp., Moline, which functions as a material handling consultant and as a sales and service representative for a complete line of handling equipment. For eight years before stepping into his present position he was material handling engineer for Deere & Co., Moline, Illinois.



LOADING STATION is start of plating operation. The gravity conveyor is for return of empty cartons.

YOU CAN *Conveyorize* JOB LOT PRODUCTION

• This company successfully conveyorized plating, painting and assembly operations on more than 750 different type castings in job-lot orders, with frequent model and style changes to add to the main requirement of flexibility.

FLEXIBILITY was the Number One requisite for a handling system when Grand Rapids Brass Co., a Division of Crampton Mfg. Co., recently moved into its new one-story plating and assembly plant in Grand Rapids, Michigan.

The company produces more than 750 different types of zinc die castings for the automotive, refrigerator and plumbing industries. And, in addition to casting and plating, it also performs painting and assembly operations, plus a limited amount of buffing and polishing.

Because of the job-shop nature of the company's operation, and because there are frequent model and style changes in the industries it serves, the entire handling system had to be flexible and versatile enough to adapt to these changes.

(More on next page)

Furthermore, the operations performed on the castings themselves are varied. Some castings require only plating. Others require plating and painting. Still others require additional assembly operations—and some are painted only.

Castings are received in company-owned semi-trailers from the company's foundry in Holland, Michigan, located about 30 miles away. They arrive in cartons and are palletized. Short sections of roller conveyor are installed on the trailer floors so that the pallet loads can be moved easily to the rear of each trailer during unloading operations.

Fork trucks pick up the pallet loads from the trailers and take them to temporary storage where they are stacked. The plant operates a fleet of six fork trucks and, when full production is reached, no castings are expected to remain in temporary storage longer than one or two days.

Production

As they are needed, pallet loads of castings are removed from the temporary storage area and taken to the start of the plating line. To expedite the handling operations, the cartons holding incoming castings also are used as in-plant containers.

At the loading station for the plating line, the cartons are opened, the castings removed and placed on an 80-foot-long table-type belt conveyor. This belt conveyor feeds the parts to operators who pick them off the belt and place them on special plating racks suspended from an overhead trolley conveyor. The speed of the trolley conveyor is synchronized with that of the belt conveyor to facilitate racking.

Reusable empty cartons are placed in an area just behind the loading station. Directly opposite this area is the unloading station, where the trolley conveyor

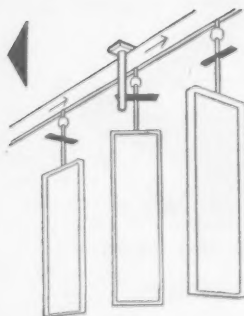
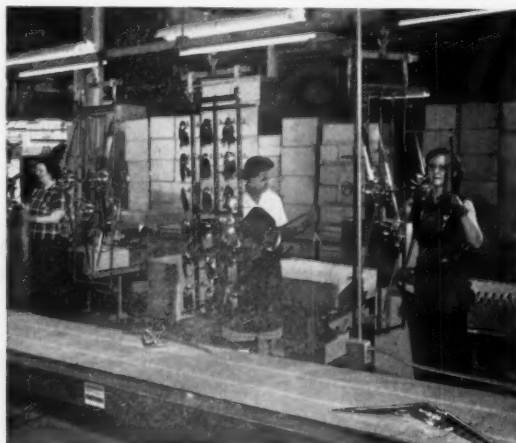
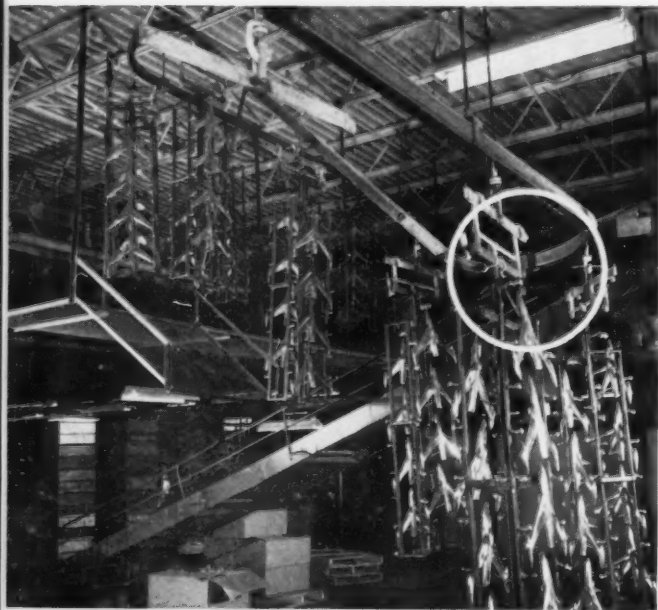
carries the castings after they have been plated. Plated castings are stripped from the racks, placed back into the original cartons and sent to the assembly room via gravity roller and belt booster conveyor.

Cartons which are damaged and cannot be reused are placed on the same table conveyor used to feed castings to the loading station. At the belt's discharge end, they are shifted to a gravity conveyor which carries them to an accumulating point. Any packing paper which might fall on the belt conveyor is carried over the discharge pulley into a hopper installed especially for this purpose.

"... clever device has been installed at the base of this incline to permit the racks to negotiate the rise..."

After passing through the plating loading station, the overhead trolley makes a sharp rise in order to clear an aisle to the washing and plating machines. A simple, clever device has been installed at the base of this incline to permit the racks to negotiate the rise without colliding with each other.

The racks, which are almost 2 feet wide, are suspended parallel to the direction of travel for easy loading. However, were they to continue this travel along the sharply-inclined section, the sides of the racks would strike each other and jam the conveyor.



TURNING DEVICE (left) consists of arm extending downward to meet cross-bar on rack. As racks pass under arm, they are turned 90° to negotiate incline. At unloading station (above) plated castings are stripped from the racks.



GRAVITY CONVEYOR, installed overhead, carries cartons of plated castings from plating room to assembly.

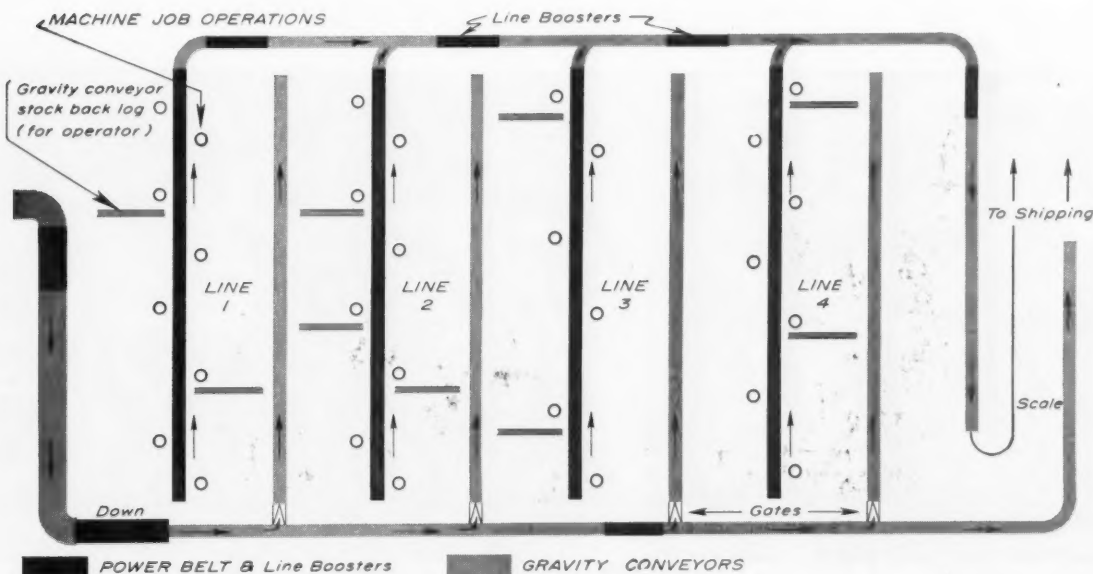
To eliminate this possibility, the racks were suspended from swivels and equipped with short cross-bars just below the swivels. As racks approach the incline, an arm extends downward to meet the cross-bars, causing the racks to swing a quarter-turn on the swivels. With the racks turned 90 degrees to face the line of travel, there is no danger of their striking each other while negotiating the incline.

When the castings have been washed and plated, they travel to the unloading station. There, they are stripped from the racks, inspected, placed in cartons and pushed down 10-foot sections of roller conveyor feeding into a gravity and power conveyor line that carries the castings to assembly and shipping.

Actually, the loading and unloading runs of the overhead trolley conveyor form the legs of a "U". The base of the "U" is a short straight path along which the plating racks are checked after they have been stripped. If they are no longer required—that is, if any particular job has been completed—they are removed from the line so they will not re-enter the loading station.

If a new job is being started, proper racks must be substituted. At this point in the system, there is another unique innovation which reflects the ingenuity of the system's planners.

There are more than 600 different types of plating
(More on next page)



ASSEMBLY ROOM LAYOUT shows main feed line, four assembly lines, outgoing conveyor and packaging line.

racks, and they cannot all be used at the same time. For one reason, there just isn't enough room on the conveyor—another, they are not all needed at the same time because of the job-shop nature of the work.

Storage of these racks presented quite a problem. To keep the many types segregated by conventional storage methods would require an extremely large amount of space. And, too, there would be the added labor of placing these racks in storage, removing them and transporting them between storage and point of use.

"... a 700-foot-long overhead trolley conveyor, separate from the rest of the system, to serve entirely as storage ..."

The solution was a 700-foot-long overhead trolley conveyor, separate from the rest of the system, to serve entirely as a storage conveyor. This storage conveyor runs high enough off the floor to afford ample headroom, and dips down at a loading and unloading point conveniently near the area where the rack requirements are checked. For safety, an expanded metal overhead guard protects the floor area under that traveled by the conveyor.

This rack storage conveyor loops back and forth in a comparatively small area to form eight lines. The plating racks are designated by number, and are placed in available openings, and removed when needed, in the shortest time possible. Needs can be anticipated, and the conveyor can be stopped when racks for the next job reach the loading station.

Plating castings which were started on their way to assembly and shipping follow a series of booster and gravity sections which carry them out of the plating room. They travel through an opening in a wall between the plating and assembly buildings, follow the

wall on a gravity roller conveyor, turn into a declined belt conveyor, then enter a long gravity roller feeder line which runs nearly the full length of the 200-foot-long assembly room. Because of its length, a booster conveyor has been installed about half-way down this feeder line.

Assembly

This main line feeds four assembly lines set at right angles to it. Essentially, each of the four assembly lines consists of a 70-foot gravity roller conveyor, a belt conveyor running parallel to it, and short roller sections extending from the roller conveyor to studding and riveting machines.

They operate in essentially this manner: cartons of castings run down the main feeder line and are pushed onto the proper assembly line feed roller conveyor. They are moved to the short sections feeding the individual studding or riveting machines. After studding or riveting, the castings are transferred to the belt conveyor, which runs alongside the machines within easy reach of the operators.

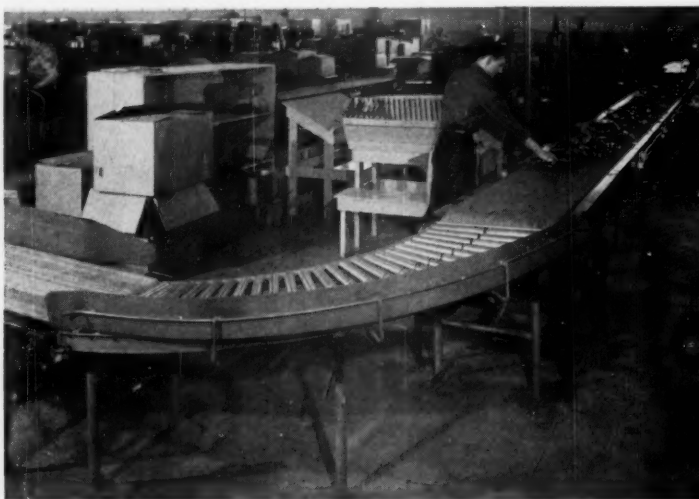
"... parts are packaged and the filled cartons placed on the same belt to be discharged onto a roller spur ..."

At the end of the four belt conveyors, parts are packaged and the filled cartons placed on the same belt to be discharged on a roller spur which feeds an outgoing roller conveyor. This outgoing roller conveyor runs parallel to the main feeding conveyor on the opposite side of the assembly room, and runs into the packaging and shipping area. It has three boosters to maintain a constant flow to a labeling line at the far end of the room.

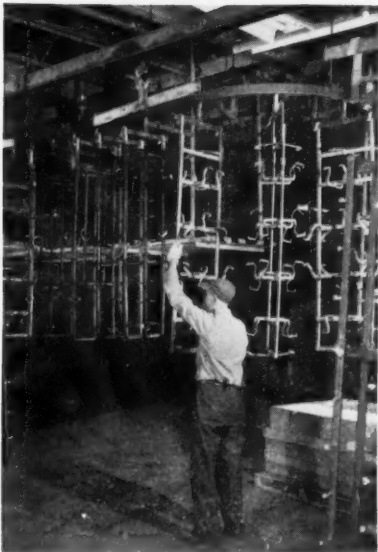
Another unique application is that busways are in-



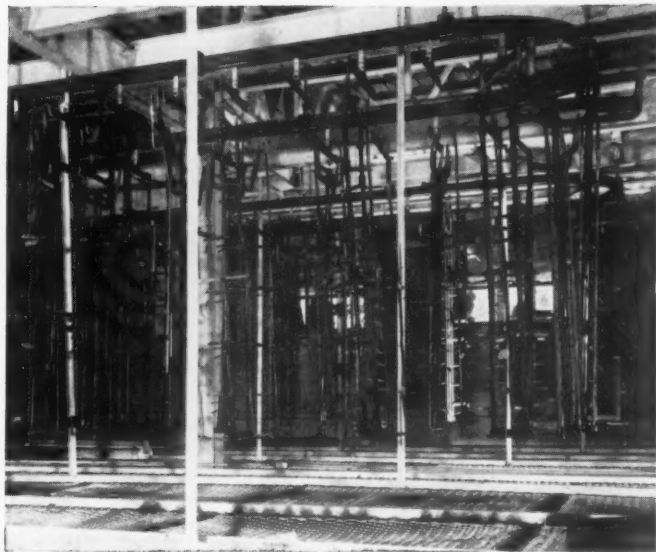
MAIN FEED LINE takes cartons from reversible booster, feeds assembly line via bridge.



BELT CONVEYOR in each assembly line carries finished castings from machines, then cartons after they are packed.



AT CHECK POINT, racks of completed job are placed on storage conveyor.



STORAGE CONVEYOR is overhead trolley conveyor, separate from rest of system. It loops back and forth in a small area.

stalled the lengths of the belt conveyors, and electrical outlets for 440 and 110 volts, spaced 6 feet apart, are located on both sides of the conveyors. This eliminates the need for overhead busways and cables to furnish power for the studding and riveting machines. And, it will greatly simplify power requirements for future alterations and maintenance work. Compressed air also is available with valves spaced 6 feet apart under the belt conveyors to service the working areas.

The finished castings which require only plating prior to shipment by-pass all four assembly lines. They

simply run the entire length of the main feeder conveyor into a packaging line located in the packaging and shipping area.

All cartons, after packaging and labeling, are palletized, picked up by fork truck and placed in temporary storage on the shipping dock to await shipment by common carrier.

Photographs courtesy Metzgar Conveyor Company which designed and furnished the belt and gravity conveyor system described in this installation.



OUTGOING CONVEYOR carries cartons from the four assembly lines. Spurs transfer the cartons from the assembly-line belt conveyors. Three boosters in this line maintain a constant flow to the packaging and shipping area at the far end of the assembly room.

Ford Motor Company Researches

LP-GAS *for Industrial*

Liquefied petroleum gases are volatile petroleum hydro-carbons. They are gaseous at normal temperatures and atmospheric pressures but are easily liquefied under low pressures. These gases include propane, propylene, butane, isobutane, and butylene. They are obtained from crude oils, and natural gases come from the oil wells with the LPG's inherent in them. Initially, the natural gas and liquefied petroleum gases are separated from the crude oil. A secondary stripping operation separates the LPG's from the natural gas. The natural gas is sold or returned to the oil fields, and the crude oils are piped to refineries.

It is estimated that approximately 15 barrels of crude oil will produce one gallon of LPG. Commercial LPG's are generally 95 percent propane or propylene and 5 percent butane or butylene—or mixtures of each. The properties of propylene and butylene are so similar to their parent stock that, for engine fuel purposes, they are considered as one. Therefore, this discussion distinguishes only between propane and butane. Propane weighs 4.2 pounds per gallon and contains 91,000 BTU's. Butane weighs 4.9 pounds per gallon and contains 102,000 BTU's. Gasoline weighs 6.9 lbs. per gal. and contains 122,000 BTU's.

Both propane and butane are practically odorless in their basic states. The octane rating of propane is 120-124 as compared to 90-92 for butane. As gases, they do not entrain solid contaminants. Hydrogen sulphide and water vapors are carefully removed. Gum problems are non-existent as the gases are simple, single hydro-carbons which burn cleanly and completely. These gases are said to have a near approach to chemical purity.

Engineers at Ford decided upon propane rather than butane for one primary reason—availability. They had propane in the plants.

There's little difference in price. Compression ratio is 9 to 1 with propane, 8 to 1 with butane.

FLOW presents an exclusive report of results of a two-year investigation of LPG, which investigation has resulted in:

- Large-scale purchase of LPG-equipped industrial trucks.
- Complete new-plant LPG-equipped industrial truck fleets.
- Conversion of trucks for LPG use, consistent economic analysis of existing equipment.

INFLUENCED BY FAVORABLE REPORTS from the Society of Automotive Engineers, the Chicago Rapid Transit System, and others, Ford engineers started an investigation of the use of propane in industrial trucks in early 1953.

One of the factors responsible for the investigation was the claim made for the reduction in carbon monoxide and noxious fumes.

The engineers had heard and read that engine performance in an industrial truck was practically ideal with LPG; that idling caused no loading or build-up in the combustion chamber; that power strokes were cushioned as the gas was slower burning; and that no blocking deposits occurred.

An experimental truck, with LP-Gas conversion unit installed was obtained. An older truck was equipped with a dual-fuel conversion unit.

(The plant insisted on the dual-fuel unit because they figured the tank capacity was not sufficient to accommodate a shift. The truck was operated 80 percent of the time on propane, 20 percent on gasoline. Operating statistics indicated that dual-fuel installations had no apparent advantage over straight propane equipment because the propane tank capacity proved sufficient to accommodate more than a single shift.)

The first 6000 pound capacity, LP-Gas equipped fork truck was placed in service in the Dearborn Assembly Plant. It was operated under the same conditions as gasoline powered trucks and kept in service for 5000 operating hours.

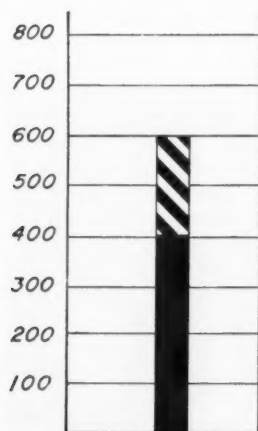
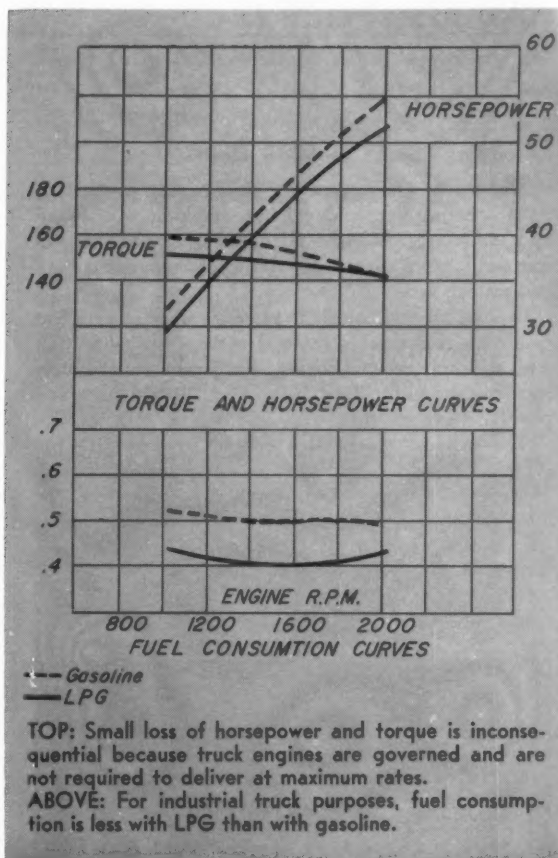
Trucks

The accompanying chart reflects a check of oil contamination. At the end of 400 hours of operation, there was no serious contamination. The condition of the oil indicated there was an additional 200 hours of expected oil life. Further tests indicated 600 hours was a safe range for oil life.

A cylinder bore check also certified many of the initial claims. The wear was practically negligible when compared to gasoline.

A slightly greater consumption of LPG, as compared to gasoline, was found.

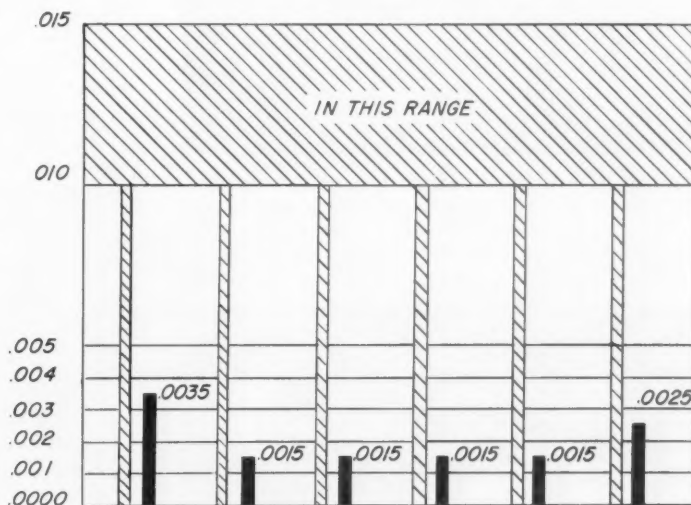
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Engine oil contamination LPG first installation Dearborn assembly plant

■ No serious contamination-
 ▨ Additional use expectancy

INITIAL tests indicated oil life expectancy, later proved, of 600 hours.



▨ Gasoline
 ■ LPG

EXAMINED after 9000 hours, engine showed cylinder bore wear had not begun to approximate that experienced with gasoline trucks.

Extensive Checks at 9000 Hours

The truck was returned to service. At the end of 9,000 operating hours, exhaust smoking was found and the truck was removed to the shop. The engine was completely disassembled for examination of all component parts.

Crankshaft and camshaft bearings were in excellent condition. Exhaust valves and seats were below par, and required reconditioning. Ford men immediately specified the use of Stellite faced valves and seats and positive valve rotators.

The exhaust smoke was caused by excessive top piston-ring land clearance. The aluminum piston was re-designed to gain the desired top ring land life. (Incidentally, Ford Motor Company offers an industrial engine which is claimed to give excellent performance when LPG is used.)



ABOVE AND BELOW: Conversions of gasoline-powered industrial vehicles are to be made wherever economic analysis shows justification. A removable rather than fixed tank has been adopted because propane is available in bulk quantities at most Ford operations.



The slightly increased cylinder-bore-wear that was found is shown in chart form. It was noted that, at 9000 hours, the wear had not begun to approximate the wear encountered with gasoline-powered trucks.

Sometime prior to 5000 operating hours on this truck, the conversion unit had been changed because the manufacture of the original unit was discontinued. At the same time, compression ratio was increased from 8-1 to 9-1. As a result, the fuel consumption picture changed at the 9000-hour mark. Propane consumption was nine-tenths of a gallon per hour as compared to one gallon of gasoline per hour.

Negligible Carbon Monoxide Production

Dynamometer tests were conducted to determine the carbon monoxide content of exhaust gases. Comparative runs were made with gasoline and propane fuels on the same engine to determine fuel consumption, horsepower, and torque output, as well as carbon monoxide content.

Burrell tests showed the carbon monoxide content of exhaust gases averaged at least 50 percent lower with propane. The content ran from 0.0 to 2.0 percent when propane was used throughout the operating range of 400 to 1800 R.P.M., and from no load to full load. At Ford, the normal for gasoline engines is about 3 percent. Minor malfunctions such as defective choke, float, dirty jets, or air passages were found to increase this percentage to 10-15 percent.

However, Federal regulations dictate that an odorant be added to the LPG before release for commercial sale. This odorant creates a rather unpleasant odor, which is noticeable particularly during the warm-up period. But, at Ford, there have been few complaints in this regard.

With the operation of LPG powered trucks, no visible smoke is emitted from the tail pipe. Half the battle with complaints on engine-powered trucks, Ford material handling men believe, is caused by people seeing smoke come out of the tail pipe. They immediately think it is harmful whereas the actual carbon monoxide content might be negligible.

Ford engineers did not desire to rely on their own tests, and so part of the burden was shifted to the Industrial Hygiene Department. This department had been besieged with many carbon monoxide complaints connected with the operation of gasoline trucks. In their tests on the truck in use at the Dearborn Assembly Plant, they found that, at a distance of six feet from the exhaust pipe, there was an average of 25/50 parts of carbon monoxide per million.

This is negligible as far as any harm is concerned, and no work inefficiency or unpleasantness is caused. Like all machinery, however, serious malfunctions can cause a rise in the carbon monoxide content. Ford insists that normal preventive maintenance be exercised to avoid the malfunctions.

Fuel Consumption Lower With LP-Gas

An accompanying graph illustrates the results of the tests on fuel consumption, horsepower, and torque output. The solid line represents LPG and the dotted line represents gasoline. Note the LPG consumption curve on the bottom chart rises somewhat at the end of the curve. But note also that the flat part of the curve represents the engine R.P.M. area in which industrial trucks operate. The tests indicated that, for industrial truck purposes, fuel consumption is less with LPG than with gasoline.

The laboratory tests reflected about the same differential witnessed in actual truck operations. It should be remembered, however, that fuel consumed, whether it be gasoline or LPG, is related to the amount of work done. In a high-cycle operation, more fuel will be consumed than in a medium or low cycle operation. You will notice that when LPG is used, there is a small loss of horsepower and torque. This proves to be inconsequential, however, because all industrial truck engines are governed, and are not required to deliver maximum rated torque and horsepower.

As a result of these tests, Ford purchased two new factory-equipped LPG, 6000 pound fork trucks for the Ypsilanti Parts and Equipment Plant. An accompanying chart shows present fuel ratios at Ypsilanti. Trucks at Ypsilanti proved to be highly satisfactory in operating a portion of the time, under maximum load, on a 6.3 percent ramp. There have been no operating or maintenance complaints, and indications are that the maintenance picture is every bit as good as that revealed at the Dearborn Assembly Plant.

Ford then purchased five additional trucks for the Dearborn Assembly Plant, and converted the balance of the fleet in that plant to propane. At the time of the conversion, trucks were also reconditioned. Thus, the

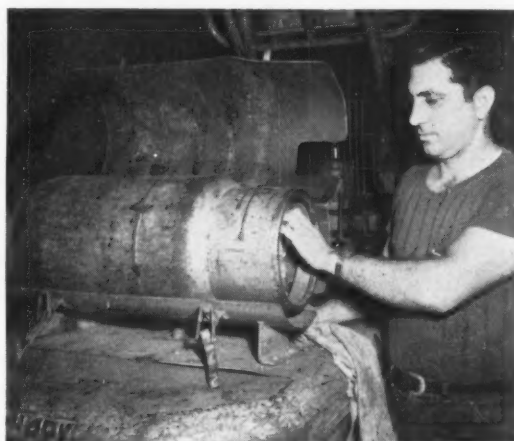
"Electric trucks are specified for those areas where electric fleets are presently operated, and in hazardous areas where fire regulations dictate the use of battery-powered equipment."

entire fleet in this plant was propane-fueled.

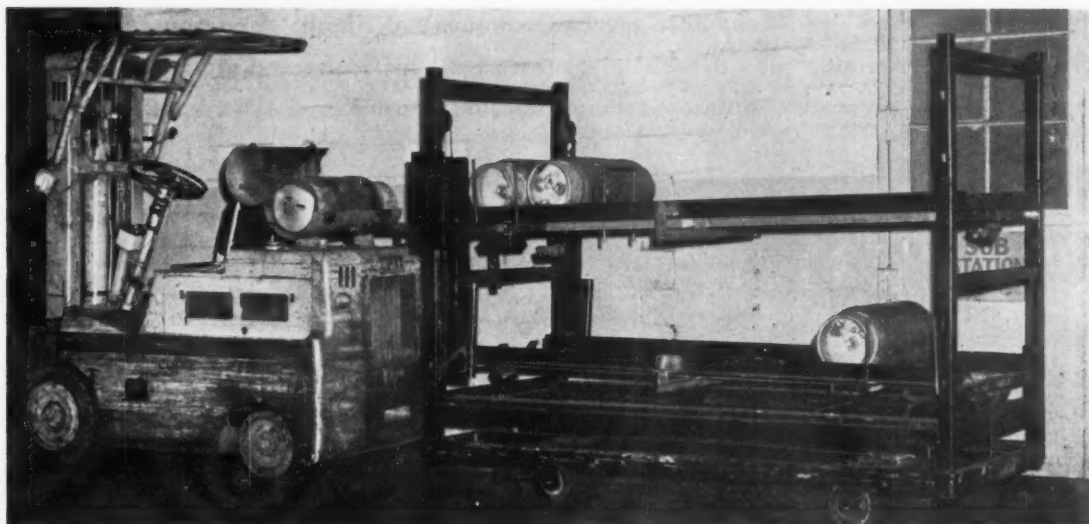
Ford engineers in Dearborn had reached a point where they knew LPG had company-wide potential, and disseminated the information they had obtained to all Ford centers.

Divisions were able to step in and specify LPG units for some of the new plants underway. Conse-

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TANK-GUARD developed to protect against damage which might result from falling objects.

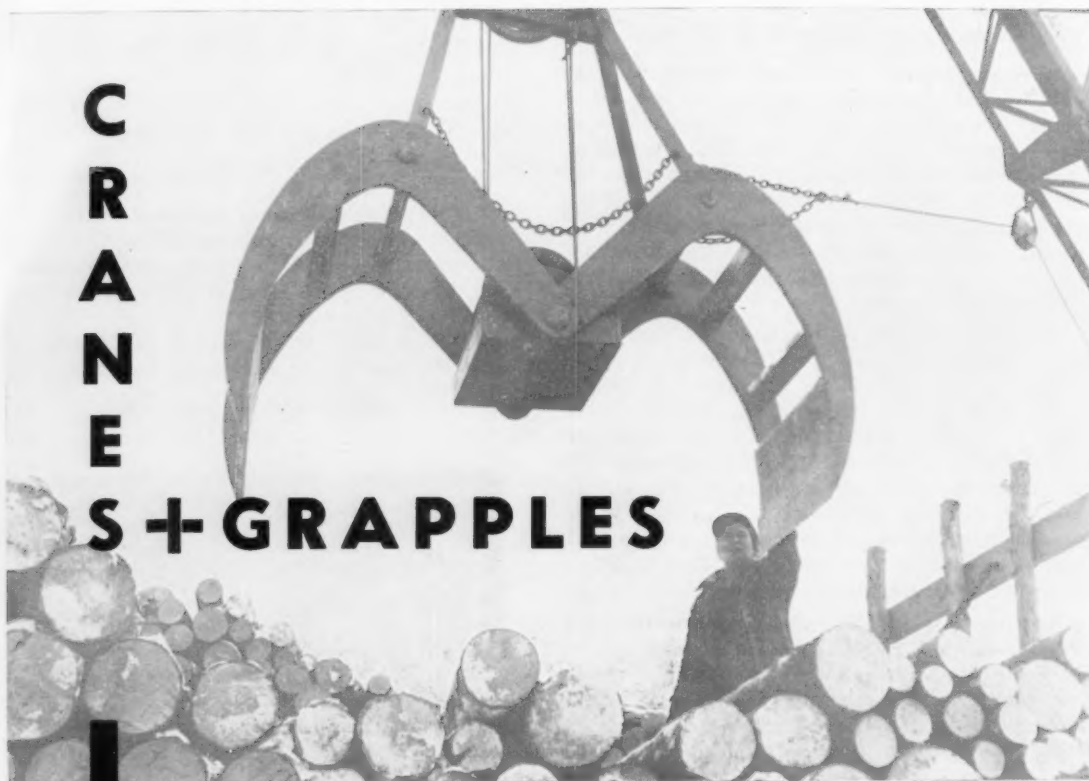


TUBULAR RACKS with two inclined tracks provide gravity loading and unloading of LPG tanks. For short

moves, to supply trucks, dolly carries rack. Interchange of full and empty tanks is almost automatic.

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S + GRAPPLES



cut handling costs 50%

Advances in crane equipment have mechanized many difficult, dangerous and time-consuming jobs. Here's how most of the difficulty and much of the work has been taken out of pulpwood handling for many New England mills.

MANPOWER, muscle and time were, for years, the three principal requirements for pulpwood handling in New England. But recently the operation has been almost fully mechanized through the use of the grapple-equipped crane. This combination has reduced the labor of truck loading, at many mills, by as much as 50 percent. And it has eliminated from 20 to 30 percent of the trucks required.

At the same time, the amount of wood handled has greatly increased; a grapple-equipped, mobile crane will handle an average of 100 cords per day.

Operations at the Brown Company, at Sturtevant Pond in Wilson, Maine, are a good example of the

development of this mechanized handling technique.

First, the pulp is cut into tree length logs and twitched a few feet or dragged, at the most, a few hundred yards to a nearby yard. Here it is recut into 48 or 50-inch lengths and piled in tiers alongside the access road for loading.

Prior to the development of a successful mechanical method, loading was accomplished by a truck driver and his helper (called a "striker"), using a pulp hook, a small hand tool. It took about 1½ hours to load six cords of wood.

Today, the grapple-equipped crane will do the same job in about 20 minutes.



LEFT: Grapple has blades which dig under logs, highly important feature for locality where operations must continue throughout severe winter, when material must be pried loose from grip of snow and ice.

ABOVE: Twenty minutes is all it now takes to load truck with grapple-equipped, crawler-mounted crane. Crew consists of operator, ground man and truck driver. Job formerly required another man and 1½ hours.

After loading, trucks go to a rail siding, a lake, a river, or a storage yard—if not directly to the mill. Here again the grapples and cranes are used if the wood has to be tiered. If it is to be dumped, then either grapples or cable slings may be used.

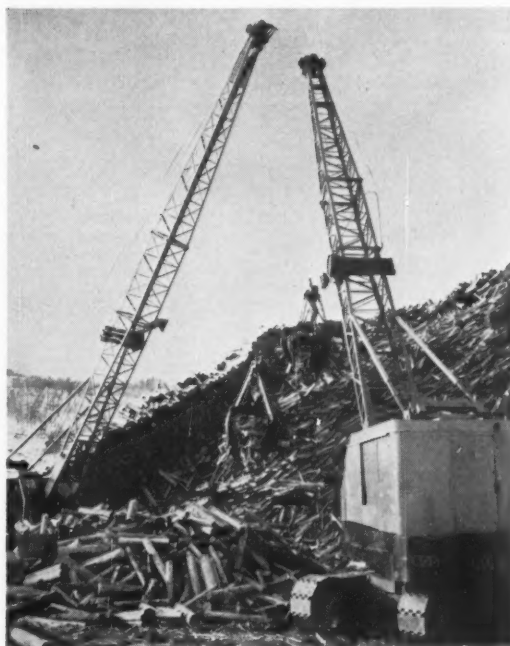
Production from grapple equipped cranes at the railheads will run as high as 200 cords per day when loading into box cars or when tiering for re-loading in the future.

Upon arrival at the mill, the wood is removed from these cars by several different methods. One of the most practical methods involves the use of a car having a hinged side, with the hinge at the top of the car. The car is run up onto a tilted section of track and chained securely in place. The side of the car is then tripped so that the wood tumbles out into a conveyor. This will carry the wood up into huge stock piles, running as high as 90 feet each.

These huge mountains of wood were not possible until cranes using suitable grapples were put into use. (A four-tine design is frequently used.) There was great danger when men had to climb piles to load wood by hand into the mill-feed conveyors.

Under the old method, small piles of wood were scattered over a large area, much larger conveyor systems were required, and—in most cases—land which had to be used was needed for other mill purposes.

Photos courtesy the Koehring Co., Parker-Danner Co., and Schield Bantam Co.



"MOUNTAINS" of wood, which now conserve space, could not be used before application of modern cranes which removed dangers of hand-feeding to conveyors.

HOW TO COORDINATE

Warehousing and Order-Filling *of Dissimilar Goods*

• Here's how Bobbie Brooks, Inc., clothing manufacturers, successfully warehouses and fills orders of two types of goods—hangared and boxed.



INTEGRATION of outgoing shipments of two dissimilar types of goods, plus the bonus benefit of being able to unload a truckload of some 1000 items in less than five minutes, was achieved by Bobbie Brooks, Inc., clothing manufacturers, at their new warehouse in Cleveland, Ohio.

This company, which specializes in "junior miss" sportswear, makes dresses, suits, skirts, blouses, sweaters and knitwear. The dresses, suits and skirts are called hangar goods because, as the name implies, they are carried on clothes hangers when transported from the main plant, also located in Cleveland, to the warehouse.

Blouses, sweaters and knitwear items are packed in individual boxes after manufacture and, logically enough, they are known as boxed goods. They are shipped in cartons to the Cleveland warehouse from manufacturing plants throughout the country.

LESS THAN FIVE MINUTES is all it takes to unload 1000 items from this truck equipped with special racks which are coupled to an overhead slide rail.



INCOMING HANGAR GOODS travel along a gravity slide rail and, by means of switch seen at left,

are directed to upper or lower storage. Note counting device at right, located near conveyor loading point.

Customers' orders are filled at this warehouse and, until recently, any order which included both hangar and boxed goods was filled and shipped separately. This was due to the different nature of the goods themselves, and the resulting difference in handling methods involved.

However, this separated method of filling orders resulted in a great deal of confusion. For example, customers receiving part of a divided shipment weren't certain whether their order had been incompletely filled, or whether part of the order had been delayed in shipment.

Need to Combine

Considering that about 12,000 different units are involved, the need for combined handling, warehousing and shipping of these goods became increasingly evident. After a careful study, the company's unique solution to this difficult problem materialized in its present general office and master warehouse building.

Incoming shipments, which arrive in highway trucks, are unloaded at three dock wells, two of which are assigned to boxed goods. These cartoned boxed goods are unloaded by conventional methods utilizing gravity wheel conveyors onto which the cartons are transferred from the trucks. The cartons are palletized and placed into temporary storage by a fork truck which stacks them to ceiling height.

The unloading of hangar goods at the third dock well, however, entails a combination of original handling techniques which are anything but conventional.

Neither are the tremendous savings in unloading time.

The trucks which deliver the hangar goods are equipped with three overhead slide racks on which the clothes hangars are suspended. While these racks are locked in place during shipment, they can be unlocked and slid along supports across the truck body—an important feature during unloading operations.

When loaded trucks back into place at the dock, the end of the center hangar rack is positioned near the end of an overhead gravity slide rail installed inside the warehouse. This gravity slide is constructed of tubing similar to that used for the racks inside the trucks.

To unload the truck, the center rack is unlocked and its end coupled to the gravity slide. When unlocked, the rack can be shifted to compensate for variances in the truck's position and can be aligned quickly with the gravity slide. Then, with a single push, 300 or more dresses, suits or skirts can be unloaded onto the gravity slide.

Speedy Unloading

The empty rack is uncoupled, the next filled rack is slid into place, and the operation is repeated. In less than five minutes, all three racks, or approximately 1000 items, are unloaded.

The overhead gravity slide leads to two flexible spiral conveyors, each of which carries the hangar goods to a storage area. These storage areas, one a lower and the other an upper, are identical in capacity

(More on next page)



INCOMING BOXED GOODS in cartons are placed into temporary storage racks by high-stacking trucks.



FILLED BOXED GOODS orders are removed from storage in individual boxes, placed on belt conveyor.

and function, and are so situated for economy only. In other words, two storage areas were set up in the same floor space that one would occupy.

Since these storage areas are alike, the choice of lower or upper level is largely dependent upon space available and sequence of storage of different styles, colors and sizes of the various types of hangar goods. A traffic switch at the end of the gravity slide is manually operated to direct goods to the desired storage line.

Immediately after the garments enter one of the two storage lines, each item is counted by an electrically-operated counter which is actuated by the clothes hangars as they ride along the grooves of the flexible spiral shaft of the conveyor.

Each storage feed conveyor, about 100 feet long, travels along one side of its storage area. Storage racks—there are nine double rows of them in each level—are installed at right angles to this conveyor so that goods can be conveniently removed and placed into storage.

Filling Hangar Orders

When orders for hangar goods are filled, the stock-pickers transfer the garments from the storage racks to assembly slide rails which run the entire width of the storage area between the rows of racks. Filled orders are pushed to the ends of the assembly rails, and they drop off onto an outgoing flexible spiral conveyor.

This outgoing conveyor, which is located on the opposite side of the storage area from the incoming conveyor, discharges the filled orders onto another gravity slide which leads to a collecting point. There, the goods are transferred to floor trucks to be moved to an assembly area where they are combined with the filled boxed orders.



FILLED HANGAR GOODS orders are transferred to assembly slide rails leading to flexible conveyor.

Boxed goods are broken out of cartons as they are needed, and are stored on shelves according to style, color and size. The boxed goods storage area is located conveniently next to the hangar goods storage area, separated only by an aisle.

When boxed goods orders are filled, the individual boxes are removed from storage and placed on a belt conveyor installed along one side of this storage area. The conveyor parallels the outgoing hangar goods conveyors and gravity slides, and carries the boxes to the same general collecting point, also to be transferred to floor trucks.

The trucks carrying hangar and boxed goods in-

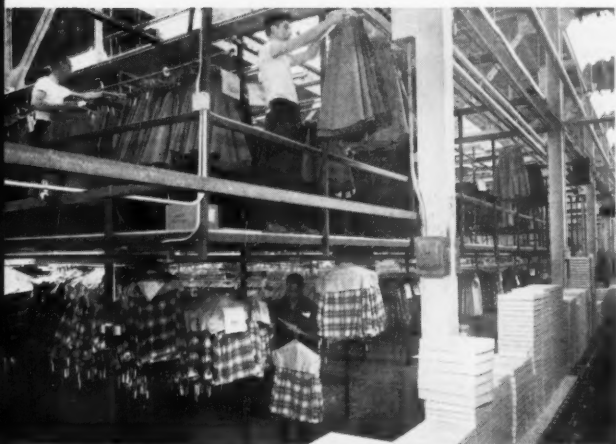
cluded in one order are then brought to an assembly area where they are combined. Hangar goods are removed from the trucks and placed on racks, and the boxed goods are placed on shelves directly above, or behind, the hangar goods. Combined orders are then double-checked by one of three billers before they are packed.

Away They Go

At the packing stations, hangar goods are removed from their hangers and placed in boxes. An overhead trolley conveyor delivers a constant supply of various-sized boxes to the packing stations, within easy reach of the packers. Box needs and requirements are anticipated and filled at the box-making station, where boxes are also loaded directly onto the overhead conveyor.

After the hangar goods are packed in boxes, they are placed on a belt conveyor leading to the shipping room. Boxed goods for the same order are simply transferred to this belt conveyor, and complete orders are packaged, sealed and mailed or shipped out.

With this highly successful handling system, Bobbie Brooks ships out some 20,000 pieces each 8-hour day from its master warehouse during normal seasons.



OUTGOING FILLED ORDERS from three areas—upper and lower hangar goods storage and boxed goods storage—converge at central collecting point.



ASSEMBLED ORDERS of both types of goods are placed together on racks (above). At packing stations (right), hangar goods are placed in boxes supplied by conveyor; complete orders leave by belt.





JAMES APPLE
Michigan State University
"Relationship of Plant Layout
to Material Handling"
June 5, 9:00 a.m.



E. ALBERT OVENS
Academy of Advanced Traffic
"Traffic Management and
Material Handling"
June 5, 9:00 a.m.



ALAN H. MOGENSEN
Work Simplification Conferences
"Work Simplification and Its
Use in Material Handling"
June 5, 10:45 a.m.

"Management Aspects" Theme Of MHI Exposition Speakers

"Integrated Handling—Management Profit Tool."
That's the theme of the twelve technical sessions sponsored by the American Material Handling Society in conjunction with The Material Handling Institute's Exposition of 1956 at the Public Auditorium in Cleveland, Ohio, June 5 through 8.

George Smith, chairman of the AMHS Technical Sessions General Committee, announced the schedule of sessions by pointing out, "Any industrialists interested in increasing production and decreasing costs will find these technical sessions and the Exposition valuable. Stiffening competition, high volume activity,



GROVER BARKDOLL
Methods Engineering Council
"Operation Analysis
in Material Handling"
June 6, 10:45 a.m.



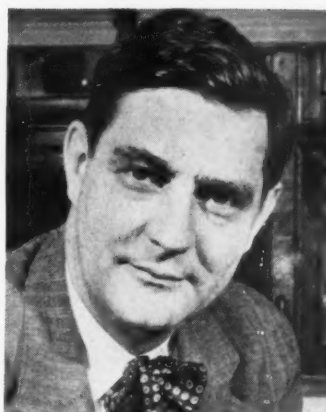
WILBUR D. WARNER
Sears, Roebuck & Co.
"Distribution in Relationship
to Material Handling"
June 6, 10:45 a.m.



JOSEPH W. SHIMP
Marinette Paper Co.
"Paper Mill Management Looks
at Material Handling"
June 7, 9:00 a.m.



GEORGE G. RAYMOND, JR.
President, MHI
"Management and
Material Handling"
June 5, 10:45 a.m.



FRED V. GARDNER
Fred V. Gardner Associates
"Analyzing Material
Handling Costs"
June 6, 9:00 a.m.



ANDREW J. BRIGGS
U. S. Navy, BuSandA
"Stock Positioning
and Space Control"
June 6, 9:00 a.m.

increased production in existing facilities and new facilities—these make integrated handling a management challenge.

"The technical sessions are planned to help management meet the challenge of using one of management's profit tools—integrated handling."

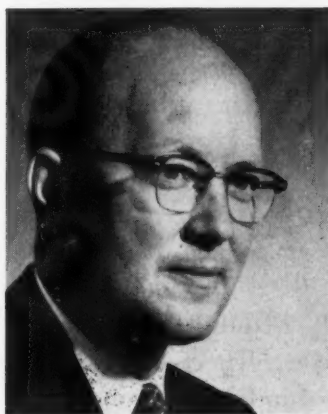
The subjects covered by these sessions will include work measurement, cost analysis, automation, work simplification, plant layout, traffic management, distribution and storage.

All twelve sessions will be held in the morning, during the first three days of the Exposition, to permit visitors ample flexibility in attending various sessions and still afford time to view the exhibits. AMHS members can purchase tickets for the technical

sessions at \$10 for two sessions or \$25 for six sessions. For non-members, tickets are \$12 for two sessions and \$30 for six sessions.

At the Exposition itself, more than 160 manufacturers of material handling equipment will display the newest advances in equipment, and will demonstrate latest handling techniques.

Also in Cleveland during the Exposition will be the first national AMHS dinner, to be held at Hotel Cleveland on June 6 at 6:30 p.m. Speaker will be John R. Bright, chief planning engineer, John Lucas, Ltd., Birmingham, England, and past chairman of the Institute of Material Handling of England. National AMHS officers will be installed, and national awards will be presented.



JAMES R. BRIGHT
Harvard University
"Managerial Problems Arising
Out of Automation"
June 7, 9:00 a.m.



H. B. MAYNARD
Methods Engineering Council
"Work Measurement
and Material Handling"
June 7, 10:45 a.m.



DR. LILLIAN GILBRETH
Knapp Visiting Professor
"The Relationship of Industry
to Education and Training"
June 7, 10:45 a.m.

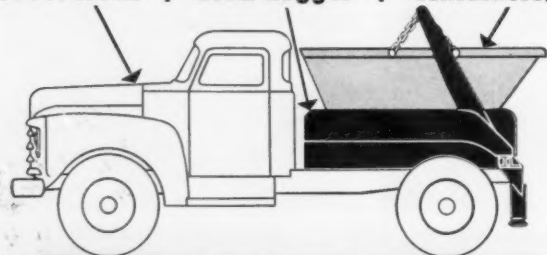


Load Luger dumps container of waste at dump about half a mile from the mill.

One man disposes of all production and maintenance wastes at Bowaters Southern Paper Corporation

***The* LOAD LUGGER® System**

(Your truck + Load Luger + Containers)



HOIST IT... HAUL IT... DUMP IT

Capacities to 14 cubic yards and 18,000 pounds

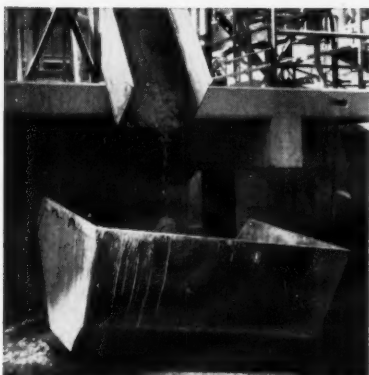
Disposal of the waste materials and rubbish which accumulate from daily production operations is a problem which plagues nearly every plant. Here at Bowaters Southern Paper Corporation, Calhoun, Tennessee, this problem has been solved with The Load Luger System of materials handling. Twenty-seven Load Luger containers are spotted at strategic points in and around the Bowaters mill. They are all handled with a Load Luger-equipped truck and *one man*, the driver. The Load Luger System keeps the mill and grounds in ship-shape order and contributes to more efficient mill operation and production.



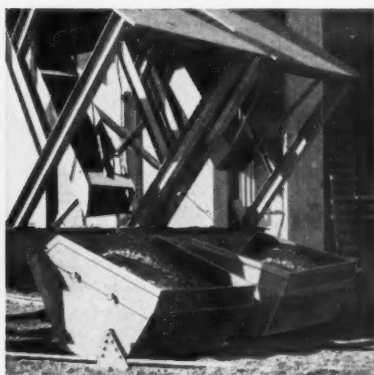
Load Luger spots container at cleaning station of bark conveyor.



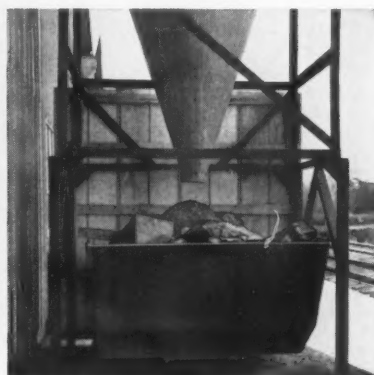
Inside the mill are containers placed on dollies. When full, the containers are moved to the nearest exit, to be picked up by the Load Luger equipped truck.



At lime reburning plant rejects from burner are deposited in a Load Luger container.



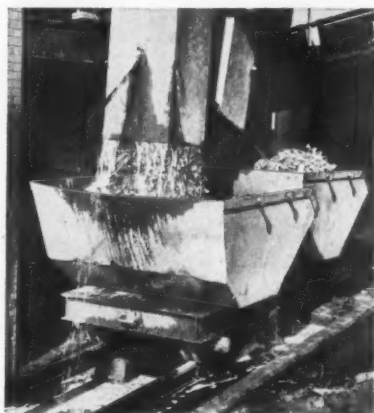
At the log unloading station loose bark is chuted into two Load Luger containers.



Load Luger container catches sawdust and waste from carpenter shop.

Take a *new* look at *your* handling methods. Whatever the material—refuse, parts, sub-assemblies, castings, forgings, etc.—The Load Luger System offers you the means of reducing handling costs as much as 200%. What's more, with the flexibility of The Load Luger System you'll be able to expand operations economically by simply adding Load Luger containers as the need arises. And don't overlook the fact that your initial equipment investment will be less and that you'll have less equipment to maintain.

It will pay you to investigate The Load Luger System *now*. Write or 'phone for full information or check the Yellow Pages for the name of your Load Luger dealer.



Splinters and bark from the log barking drums are carried through chutes to two containers.



Ingersoll KALAMAZOO DIV.
BORG-WARNER CORPORATION
 1835 North Pitcher Street, Kalamazoo, Michigan
 Telephone 5-3501



PROBLEM: HOW TO ELIMINATE "FLATS" — BUT STILL GET A "SOFT" RIDE

**SOLUTION:
NOTAT
TIRES**

After a year of use (over cobblestones and steel fragments) this set of Notat Tires still has plenty of wear left.

Granville Strachan, supervisor of Shipping, Receiving and Storage, Samuel M. Langston Co. (Camden, N. J.) corrugated container machinery, reports: "Because our fork trucks travel a great deal over bumpy cobblestone streets, we couldn't use solid tires. And because of steel turnings on the plant floors, we had a lot of 'flat' trouble with pneumatic tires. A year has passed since we installed a set of NOTATS on the above Buda. That's longer than most sets of pneumatics ever lasted and we've still got plenty of wear left. We certainly eliminated flats and got the bounce-free riding quality we were looking for." Because NOTAT Tires have no air chamber, they can't go flat. And because they're LAMINATED (not solid) they "give" to prevent damage to loads and vehicles.

NO FLATS WITH NOTATS



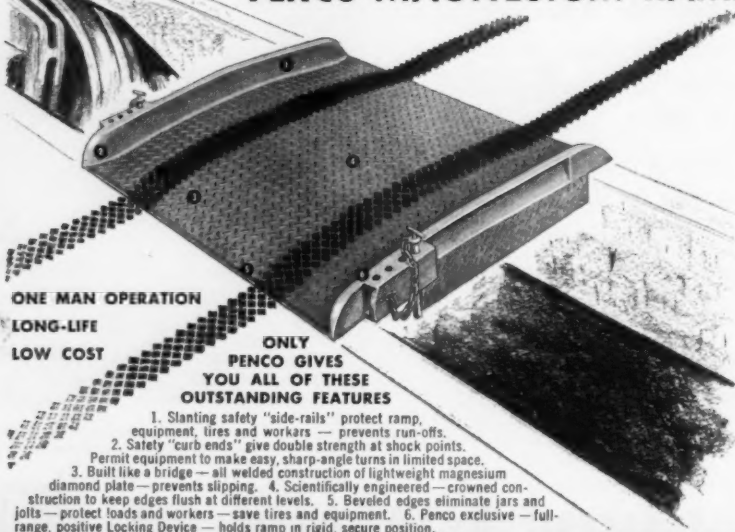
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Is with a Light Weight

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ONE MAN OPERATION
LONG-LIFE
LOW COST

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PENCO GIVES
YOU ALL OF THESE
OUTSTANDING FEATURES

1. Slanting safety "side-rails" protect ramp, equipment, tires and workers — prevents run-offs.
2. Safety "curb ends" give double strength at shock points. Permit equipment to make easy, sharp-angle turns in limited space.
3. Built like a bridge — all welded construction of lightweight magnesium diamond plate — prevents slipping.
4. Scientifically engineered — crowned construction to keep edges flush at different levels.
5. Beveled edges eliminate jars and jolts — protect loads and workers — save tires and equipment.
6. Penco exclusive — full-range, positive Locking Device — holds ramp in rigid, secure position.

PENCO ENGINEERING CO.
25 California Street, San Francisco 11

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**YOUR RESPONSIBILITY
FOR PROFITS**

(Continued from page 63)

of deterioration and pilferage. Moreover, a new warehouse would not solve the basic problem of maintaining the right inventory balance, and there would still be the cost of shifting the product inventory back and forth between warehouse locations. Finally, larger inventory would mean larger overhead costs, including an increased fee to their public accounting firm—which naturally would have to go to the distant location to verify the inventory at the time of the annual audit.

The result of this digging for facts on what the new warehouse would do to profits was a decision not to build it, but to maintain higher inventories of unassembled component parts.

Thus, with a good grasp of the nature of profits, you not only accept your responsibility when you—as an individual—plan in terms of profit but also instinctively ask what any projected action's impact will be on the entire company's profit picture.

Measuring Profit Contribution

The third piece of equipment you will need is the ability to measure profit contribution, or to use the best measure of profit performance.

Executives who have to make day-to-day profit decisions should beware of complacency concerning their profit performance, simply because profits this month are higher than a year ago, than a month ago, or than at some other period in the past. Maybe business conditions have been changed, or the company may have better equipment at its disposal—there may be any number of reasons why profits this month should have been even greater in relation to the past period. Our experience is that the only way a company can realistically measure profits is to first forecast profits, and then measure actual performance against the forecast. Then, in this manner, it can determine basic causes for any variance from the planned profit goal.

Can I use a full-time Towmotor?



THERE'S ONLY ONE FORK LIFT TRUCK CALLED TOWMOTOR

Yes!

Wherever they are used, Towmotor Fork Lift Trucks are in constant demand, because they perform equally well in dozens of receiving, production, storage and shipping operations. Towmotor Job-Planned Accessories provide even greater versatility, enable you to save time and cut costs on an infinite variety of regular and "special" materials handling jobs.

Ask your nearest Towmotor representative to show you what Towmotor equipment can do to improve your handling operations . . . or write for Certified Job Studies covering *your* industry. TOWMOTOR CORPORATION, Div. 805, 1226 E. 152nd St., Cleveland 10, Ohio.

Read how other companies use Towmotor Equipment to Cut Costs!

Intra-Plant Operation: Ask for Job Study #99
Food Warehousing: Ask for Job Study #105
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Tobacco Handling: Ask for Job Study #115

America's best engineered fork lift truck

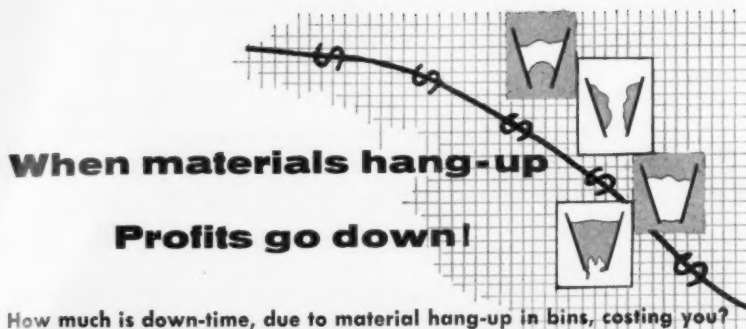
TOWMOTOR
THE ONE-MAN-GANG®

See the TOWMOTOR EXHIBIT



Cleveland Auditorium - June 5-8

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If you have a problem of material flow from your bins, your entire production line is bound to suffer.

PneuBin can solve your problem!

- Safe
- Economical
- Quiet

PneuBin panels are a new concept in bin-stored material activation. The PneuBin panel is a steel-backed, Neoprene diaphragm mounted on the inside walls of your present bins. This PneuBin panel, operating off your regular plant air supply is inflated and deflated in cycles, positively displacing the bin contents to activation. This positive displacement assures constant free flow of materials . . . eliminates bridging, funneling and caking.

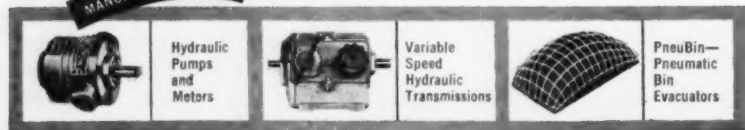
PneuBin engineers will gladly make no-obligation recommendations on your specific material handling problems. Write for FREE literature and "Flow Stoppage Report."

GEROTOR

MAY CORPORATION

MANUFACTURERS OF—

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YOUR RESPONSIBILITY FOR PROFITS

Continued

The Need to Measure Contribution of Every Function

Many companies have adopted a system for profit planning and budgetary control. But even in these companies there is usually room for more accurate measurement of real profit contribution. For example, material handling executives make their profit contributions intermittently and in an advisory capacity. Yet, though the long-run profits of the company may, to a large degree, depend on such contributions, it is common practice in many companies to evaluate these activities merely by comparing actual versus budgeted expense of operating the department. This is important, but it is not as important as learning how to measure results of the material handling contribution.

This is particularly necessary when a company, although still operating at a profit, may be taking a good hard look at costs, and asking: "Should we expand our material handling and packaging staff; should we reduce it; or should we eliminate it?"

The matter involved is essentially a question of measuring profit contribution. In a way, a staff group is an investment in a facility. Perhaps management should measure the material handling department's performance in terms of its investment and look for a return on salaries just as it would look for a return on money paid for a piece of equipment.

To be frank, there is not yet a really satisfactory answer to the question of how to go about measuring the profit contribution of staff groups. But we will never be able to plan effectively for profits—even if we know what profits are, even if we think and plan in terms of profits—if we concentrate on measuring the cost of running a staff function and ignore the far more important question of its profit contribution.

The Post Appraisal

In regard to this problem of measuring profit contribution,

THIS TRACTOR SHOVEL OFFERS YOU MANY BENEFITS

*in all-purpose
materials handling*

ALLIS-CHALMERS

HD-6G

Capacity, 1½ cu yd

Belt hp, 55

Weight, 19,600 lb



See us at the
**MATERIALS
HANDLING SHOW**
Cleveland, June 5-8, 1956

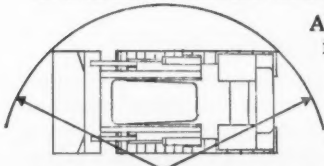
Let us tell you more about the many
benefits offered by Allis-Chalmers
Tractor Shovels.

The HD-6G offers you a combination of materials handling advantages found only in the hydraulic tractor shovel method — a method pioneered, proved and improved by Allis-Chalmers.

It offers big capacity

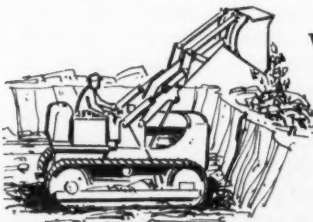
Bucket handles 1½ cu yd in any bulk material. For light materials, a special 2¼-cu-yd bucket is available.

It offers small-loader maneuverability



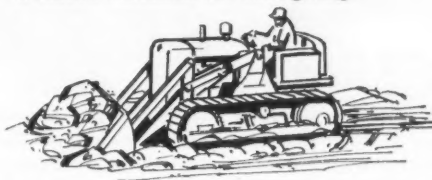
Ability to pivot around its inside track makes the HD-6G surprisingly maneuverable. It can turn from a 9-ft aisle into a 9-ft bin!

It offers excavator power



Weight, power and traction behind a big-capacity hydraulic system gives it down pressure and penetrating ability for excavating and crowding into hard-packed material.

It offers flotation for soft going



With crawler tracks, the HD-6G travels almost anywhere, in unpaved yards, through mud, sand or snow. In many cases, it works right up on a stockpile. This enables it to store many more yards of material in a limited area.

Find out what this combination of abilities can do for you. Write for literature or ask your Allis-Chalmers Construction Machinery dealer to show you the HD-6G in action. Also, three larger models — up to 4-cu-yd capacity.

ALLIS-CHALMERS, CONSTRUCTION MACHINERY DIVISION
MILWAUKEE 1, WISCONSIN

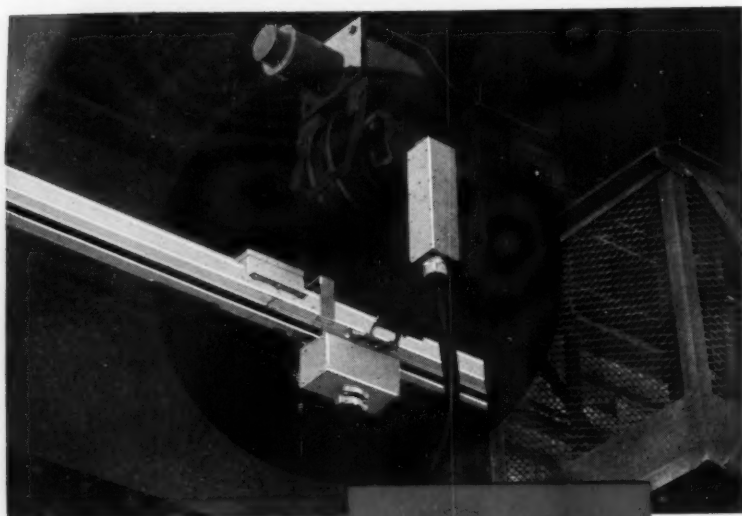
ALLIS-CHALMERS



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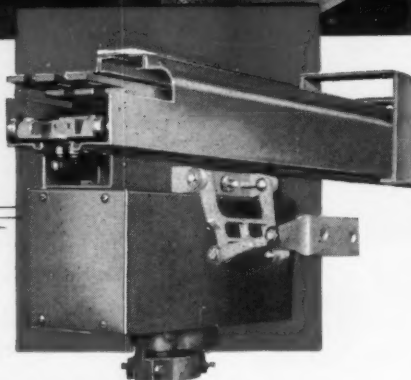
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In addition to maximum safety, Heavy Duty Feedrail fits your requirements. Its standardized components—accurately, ruggedly constructed—make for fast, easy installation. Its low maintenance, long life and continuous dependable service are economy factors in plant operation.

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Never Becomes Obsolete

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Send data on FEDERAL TROLLEY BUSWAYS for:

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Firm _____

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YOUR RESPONSIBILITY FOR PROFITS

Continued

many engineers have found the post-appraisal to be a helpful tool. Suppose the head of the department proposes some equipment. It is purchased and installed. But instead of forgetting about it after the start-up period, the engineers follow up periodically—one, two, or five years later—in after-the-fact appraisals of what was really achieved.

The purpose of the post-appraisal should be to spot where any errors may have been made or factors overlooked when the recommendation was first made, so that quality of profit estimating on projects will improve. Further, the post-appraisal can spot where actual performance differs from the projection—and determine what is not being done according to plan—so that the engineers can help operating personnel realize the benefits that were foreseen when the equipment was installed.

Post-appraisal is not easy. It is difficult to determine whether a rise in profits is solely, or even partly, attributable to the equipment change—or whether the rise in profits might not have been even greater if some other department or division had not dissipated the profits the new equipment had achieved. But if we feel confident enough to make a profit projection, we should be willing to make a post-appraisal. And failure to post-appraise may mean we are missing the opportunity to improve our estimates and are leaving blank another major area for profit contribution measurement.

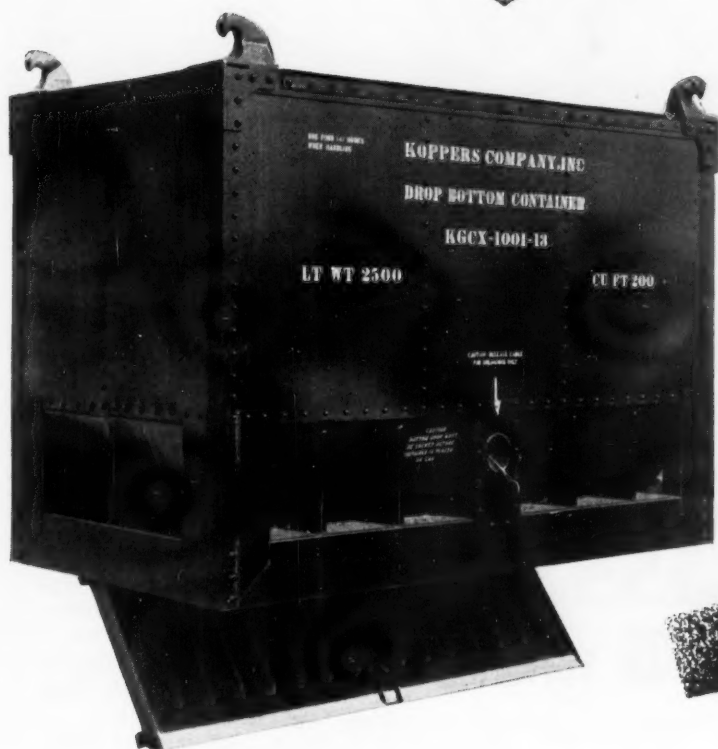
Getting the Facts

The final point—that if you are responsible for profits, you must have the information you need to keep track of them—follows naturally from the first three. Unless you know what profits are . . . unless you think and plan in terms of profits . . . unless you try to, and know how to measure profit contribution . . . you cannot know what kind of information you should be getting in order to have a true profit picture. The material handling man's job is easier if his

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Now

A YOUNGSTOWN DROP BOTTOM CONTAINER FOR COKE HANDLING



Your easiest,
most efficient,
economical and
fastest way of
handling coke

The illustrated drop bottom container has been designed primarily for the handling of coke. The container provides an exceptionally large cubical capacity, up to 325 cubic feet, and a load capacity up to 11,375 pounds.

The container preserves intact the lumps of coke loaded into it, thereby greatly minimizing the quantity of fines normally produced by other methods of coke handling.

The speed of unloading Youngstown drop bottom coke containers exceeds that of other means of coke handling. The containers are lifted from the cars

in which they are transported, their load easily, quickly and completely discharged at the point of use or into bins and then immediately returned to the cars. The number of man hours required to unload a car of containers is materially reduced and the time and expense of intermediate handling is eliminated.

The substantial savings effected in the cost of handling coke in Youngstown coke containers becomes evident. These savings soon pay for the cost of the containers. Youngstown drop bottom coke containers are self-liquidating.

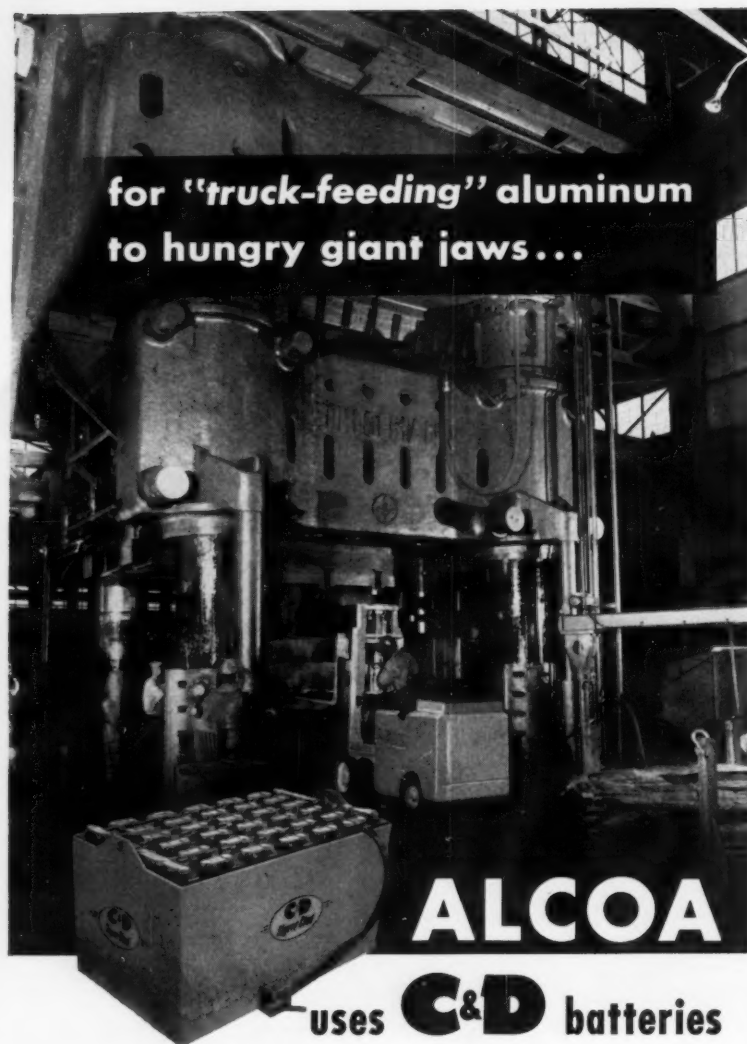
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ALCOA

uses **C&D** batteries

It takes a lot of aluminum to keep this mammoth filled. And this is just one of many giant presses at Alcoa busy shaping the millions of Alcoa® Aluminum products used throughout America's armed forces, homes, and industry. To help solve vital material handling problems, Aluminum Company of America uses C&D Slyver-Clad® batteries as a major source of power for the electric industrial trucks used in its daily operations.

C&D Slyver-Clad batteries are approved as standard equipment by all electrical truck manufacturers. For further information, write for Catalogs.

C&D BATTERIES, INC.  

of Conshohocken, Pa.

INDUSTRIAL BATTERIES SINCE 1906

SALES AND SERVICE OFFICES IN PRINCIPAL CITIES FROM COAST TO COAST
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YOUR RESPONSIBILITY FOR PROFITS

Continued

mail is not flooded with unnecessary, overlapping, and poorly designed reports. He is further helped if the reports are written in a language that he can understand.

To help the accountant give you the information you need, you must clearly define the purpose and the limits of the information you require. Acquaint him with your problems so that he can tailor profit information for you. Don't complacently accept the data you now receive because it partly fills your needs, or because it is the same report that the "brass upstairs" receives. Instead, analyze your profit problems and, in conjunction with the accountants, develop the kind of information you need to keep track of them. These then, are the actions the material handling man can take to do his share in accepting responsibility for profits:

1. Know what profits are—understand the relationship between income and expenses—and recognize that there is a cost to profits.
2. Learn to think and plan instinctively in terms of profits. Don't limit your profit horizon to your own department or to immediate considerations; keep your eye on long-range, company-wide objectives.
3. Try to measure profit contribution and, where yardsticks are not available or are inadequate, attempt to develop some.
4. Get the information you need to keep track of profits—not just the information that accountant thinks you need, but information that has been jointly developed in the light of your needs and his ability to supply.

Today the need for every one in the organization to recognize and accept his responsibility for profits is probably greater than it has ever been. "The material handling executive can discharge his tremendously important role—at any phase of the business cycle—if he joins to his technical skill an informed, imaginative profit point of view."



Maneuverable BAKER "FT" Electric Trucks have lower silhouette, greater stability!

• Ability to maneuver safely and quickly in narrow aisles and tight places with large, heavy loads means more and faster work from new Baker "FT" electric trucks. Contributing factors are less overhang, lighter weight, lower silhouette, greater stability, shorter turning radius and greater forward tilt.

These new trucks have many other features for safe, more efficient operation. More convenient

controls—right where operator wants them—are easy and simple to actuate. Absence of cowl and other obstructions means better visibility, greater ease in mounting and dismounting from either side. Dynamic braking means greater safety on ramps, smoother stops, more protection for truck and load. Self-energizing, self-equalizing hydraulic foot brakes and separate parking brake linked to driver's seat give added safety.

Capacities to 6000 pounds. Write for specific bulletins.

See Baker Trucks in action at the MHI Show, June 5-8

Baker

handling equipment

THE BAKER-RAULANG COMPANY

1219 WEST 80th STREET • CLEVELAND 2, OHIO

A subsidiary of Otis Elevator Company

6E-4

MAY, 1956

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97

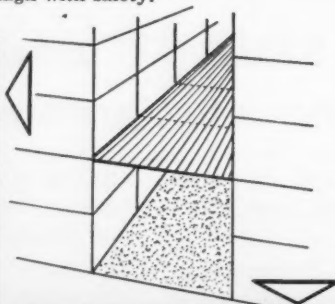
Cargotainers® Help Douglas Up-date Jet Bombers



Forty-eight cubic feet of storage space are available in each of these Cargotainers. They can be tiered four high with safety.



Top row of Cargotainers can be reached easily by means of the catwalk seen above. Below is how bottom row looks in the tiered storage area.



Builder Uses Pittsburgh Steel Containers To Cut Storage Costs

Keeping the sleek, six-jet B-47 bomber fully modified and in tip-top readiness presents a king-sized materials handling problem to production engineers at Douglas Aircraft Company's huge Tulsa (Okla.) Division.

Some 35,000 different parts must be kept quickly available—some for as long as two years, others for only 24 hours. They are used in the U.S. Air Force-owned plant which Douglas operates in the continuing Air Force Overhaul and Modification Program for the big Stratojet.

Douglas appraised its parts-handling problems and came up with a solution: use of sturdy, steel mesh Cargotainers made by Pittsburgh Steel Products, a division of Pittsburgh Steel Company.

Using Cargotainers gave Douglas an aircraft industry engineering "first," but more important, they cut per item storage costs as much as 75 percent when compared with wooden box storage bins they replaced.

B-47's, currently the Strategic Air Command's prime airplane, come to Tulsa periodically from bases all over the globe to be brought up to the minute with the steady stream of aeronautical advances. Until they land at Tulsa, however, Douglas does not know the exact extent of up-dating each plane will require.

Sometimes, the big ships bring along their own modification parts; other times, parts come to Tulsa from the plane's original builder, from a sub-contract supplier or from other Air Force sources. Whatever their origin, the parts must be stored efficiently and economically.

That's what prompted Douglas to make a close study of its materials handling system. Douglas determined that its parts storage units had to be highly portable, use as little space as possible and be extremely versatile.



Open end Cargotainer makes for easy access when containers are used as storage bins. Note horizontal separator.



Standard horizontal and vertical dividers can be used in a variety of combinations to compartmentalize contents.

At first, Douglas tried wooden boxes, stacking them in twin tiers four boxes high. Cost of each $3\frac{1}{2}' \times 4' \times 4'$ wooden box ranged from \$36.50 to \$38, recalls Jack W. Byrd, general foreman of manufacturing control. It wasn't long before Douglas had a record of these disadvantages:

1. Heavy loads tended to split the boxes.
2. Using a fork truck to move the containers many times severely damaged the bottom box.
3. To use dividers or separators required expensive, space-consuming additions to the boxes.
4. Wooden boxes had no salvage value.
5. Wooden boxes were dirt-collectors, required regular painting and maintenance.
6. General fragility constituted a safety threat and the wood was a fire hazard.
7. Artificial lighting was required to illuminate box interiors sufficiently.

Pittsburgh Steel Products knew its Cargotainers could eliminate these objections. Douglas ordered 94 standard $48" \times 48" \times 36"$, 2,000-pound capacity, Strip-Base Cargotainers. One end was cut out, leaving four inches of fabric on both sides and across the top for extra strength.

The Cargotainers were equipped with half and full vertical dividers, as well as full horizontal separators, giving maximum use of the cube, regardless of size, shape or number of parts to be stored in them. Horizontal separators, placed on two-inch centers, provide shelves, while vertical dividers make pigeon-holes for odd-shaped flat parts.

Douglas engineers then devised a sturdy, but easily dismantled catwalk for quick safe access to the top two Cargotainers in the four-high stack.

Cost of the Cargotainers aver-

aged \$40 each, only \$2 more than the unsatisfactory wooden boxes they replaced.

Douglas has 14 feet of vertical storage space with Cargotainers. In one common parts size range, lack of dividers and separators limited a wooden box to one item, four to a tier. With Cargotainers' dividers and separators, it was possible to put four of the same items in one unit. That meant 16 per tier.

Cargotainers, then, meant a 75 percent reduction in per item storage costs.

Besides being strong enough to contain parts weighing up to 200 pounds each—as in the case of ballast weights—the Cargotainers are a safe, fire-proof storage unit.

They can be tiered handily by a fork lift truck. They can be moved empty from building to building, plant to plant, if necessary, on a flat trailer hauling 96 knocked-down Cargotainers, compared with 14 of the same size wooden boxes.

Cargotainers provide easy visual inventory without extra artificial

lighting. They do not collect dirt, nor do they require painting of their aluminum-dip, maintenance-free finish.

Two men can assemble a Cargotainer in 45 seconds, Douglas found.

Douglas' study of Cargotainers, extensive on its initial use of them, came up favorable on all counts. Thus, Cargotainers got the best vote of confidence they could receive—a second order was placed, and this time, the Cargotainers went to the Design and Test Operations Division.

Cargotainers have racked up similar success stories in every industry they've entered, thanks to the inherent advantages of the product and the experienced, skilled engineers. Pittsburgh Steel Products has available to tackle materials handling problems. Give Cargotainers a chance to improve your materials handling while you save money. A phone call to any Pittsburgh Steel Products sales office listed in this ad will put you on your way to a profitable, lasting solution of materials handling problems.

Visit our booth (No. 500) at Material Handling Institute's Exposition in Cleveland

Cargotainers®

by Pittsburgh Steel Products

a division of Pittsburgh Steel Company

Grant Building

Pittsburgh 30, Pa.



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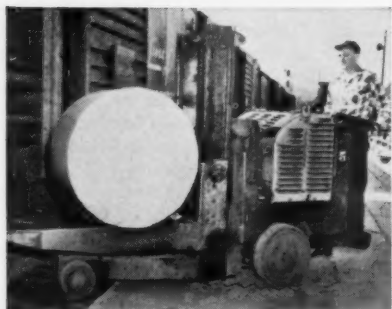
Tulsa
Warren, Ohio

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ONE Spare Ready-Power Unit Keeps a 10-Truck Fleet Working 24 Hours a Day!

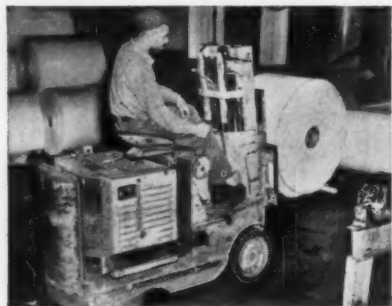
at West Virginia Pulp and Paper Company, Covington, Virginia



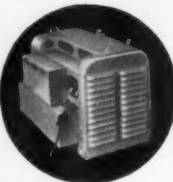
Quickly interchangeable Ready-Power gas-electric power units simplify the problem of full-time electric truck operation at West Virginia Pulp and Paper Company.

Various makes of fork trucks up to 8000 lbs. and platforms up to 6000 lbs. have all been converted to Ready-Power. Systematic rotation of power units, with one spare for preventive maintenance, has eliminated truck downtime due to power failure.

Why not use cost-cutting Ready-Power units on your trucks? There are gas-electric, diesel-electric and LPG-electric models for all electric truck makes and sizes. Write for information.



See Ready-Power
on display,
Booth 1409,
The Material
Handling Institute's
Exposition,
Cleveland,
June 5-8



READY-POWER

The READY-POWER Co., 3838 GRAND RIVER AVE., DETROIT 8, MICH.

Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

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MAINTENANCE PLAN FOR HANDLING EQUIPMENT

(Continued from page 67)

Probably very descriptive of this point is the case of the warehouse operation that was entirely dependent upon the performance of a particular fork truck. Management not only failed to have means of performing the firm's own maintenance but also refused to exercise the preventive steps prescribed by the manufacturer of the truck. As if this were not enough, they neglected to request maintenance assistance from the manufacturer even when readily observable points of wear indicated an approaching breakdown. The result was a critical slowdown in operations.

Job-Shop Maintenance

The hue and cry that maintenance is a job-shop operation—and as such cannot be planned and scheduled effectively—should by now fall on deaf ears. Unfortunately, the lack of sound follow-up can very often be attributed to that type of thinking. The follow-up effort is vital in the successful "maintenance" of any established system. For the purpose of making schedules more functional, actual time must be compared to scheduled or standard times, the dove-tailing of manpower and materials at the job-site must be examined and improved, and a reliable check on the quality of the work being performed must be built into the system.

Proper Program Increases Efficiency

There's real hope for management in the fact that, by properly programming the maintenance function in all its aspects, not only can costs be reduced but also the effectiveness of material handling equipment can be increased anywhere from 20 to 50 percent. It is an obligation on the part of wide awake management to realize that the very basis for a sound profit picture is a well maintained production system. To maintain it takes as much, if not more, skill than it did to create it. The people responsible for the task should be given all the assistance required.

LOADING PALLETS *by hand?*



If so, visit GREER Booth No. 318 at the Material Handling Institute's Exposition of 1956 at Cleveland Public Auditorium, June 5 through 8, and learn how



the PALLETIZER* by Greer mechanically stacks cartons, boxes or bags — easier, cheaper than you ever thought possible!

Takes the labor out of loading . . . yet matches the flexibility of hand stacking.

At last — a simple, flexible pallet loader that justifies mechanized stacking where never before practical. One-man operation. Palletizer loads each tier as operator patterns next layer without lifting or carrying of any kind. Loaded pallet discharged automatically as empty pallet rolls into loading position.

Saves time, labor; reduces breakage. Simplified mechanical-electrical construction for easy maintenance, reliable operation. No electronic, hydraulic or pneumatic controls. Comparatively simple attachments convert Palletizer to completely automatic unit.

► Palletizer stacks famous Mobiloil Special at Socony-Mobil's East Boston, Massachusetts plant.

► Operator instantly shifts from one pattern or carton to another as packages "float" on ball arranging table.



WRITE FOR —
informative Bulletin 55-9 and
name of your Palletizer Dealer



J. W. GREER COMPANY

WILMINGTON, MASSACHUSETTS

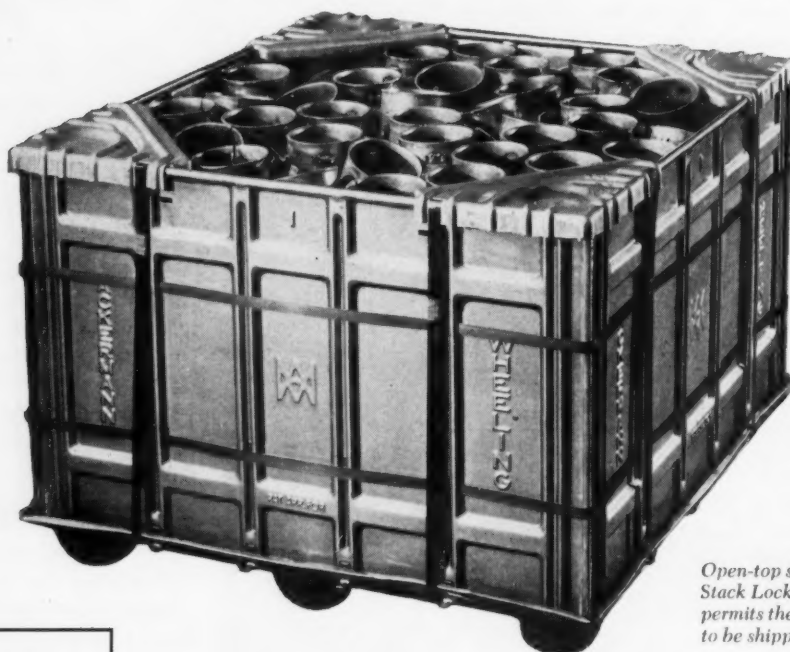
Palletizers are sold and serviced by authorized dealers throughout the U.S. and Canada.

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*Trademark — Patent applied for



New Ackermann **BAND-BOX** Cuts Shipping PATENT APPLIED FOR Container Costs Up To \$3.35 per Trip!



*Open-top shipping, with
 Stack Lock Corners,
 permits the Band-Box
 to be shipped at no charge.*

New lightweight
 re-usable steel shipping
 container costs less
 per trip
 than any other type
 of container

Figure it out yourself: 1-trip throw-away boxes cost \$4.75; 2-trip boxes cost up to \$6; the Ackermann Band-Box costs only \$2.65 per trip. Solid savings? And how!

Then consider that the Ackermann Band-Box also cuts freight costs up to \$2 a trip. Stacks, palletizes, knocks-down and reassembles in seconds, saves shipping department labor, too. And the Band-Box is the only container that can nest 15 complete boxes—tops, bottoms and sides—in the cubic area of 1 assembled box. It's ideal for all in-plant and inter-plant shipping and storing.

Get full savings details. Write, wire or call for full information today.

ACKERMANN MANUFACTURING COMPANY
 WHEELING, WEST VIRGINIA



Let Ackermann solve your stamping problems, too!

Ackermann's complete stamping facilities include the ability, equipment and personnel ready to solve any stamping problem... from drawing board to finished product. Find out now how efficiently and economically your product can be stamped. Write, wire or call for full details.

STEEL STAMPING DOES IT BETTER... ACKERMANN-WHEELING DOES IT BEST!

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PACKAGING ENGINEERING

SHIPPING

MAY 1956

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An Easy Index to This Month's Advertisers

Are you looking for a particular type of packaging and shipping equipment? Listed below are advertisers according to type of product they are advertising in this issue. We have attempted to make your job a little easier by listing them as often as possible. To

use this index, find the type of product in which you are interested...turn to the advertisers listed under that product...circle the correct numbers on the reader service card, mail it, and you'll get complete information in a jiffy.

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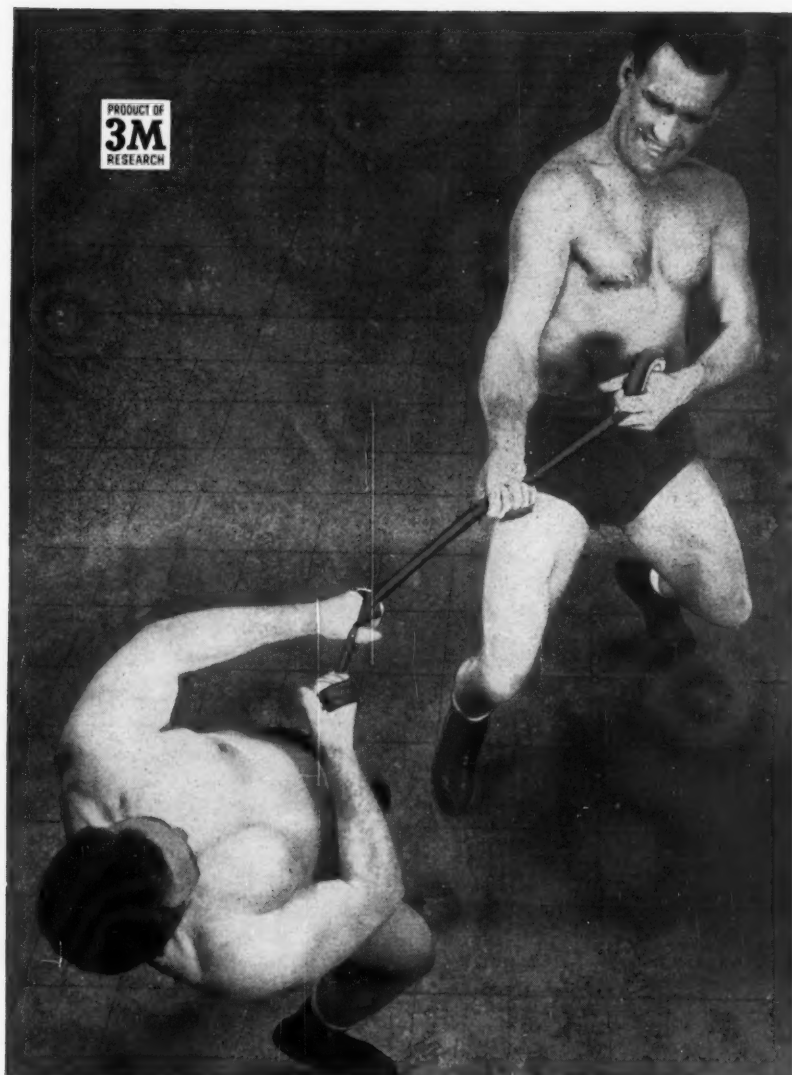
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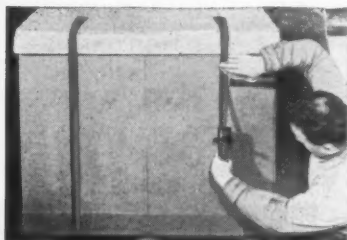
PRODUCT OF
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RESEARCH



**Look what you
can do with it!**



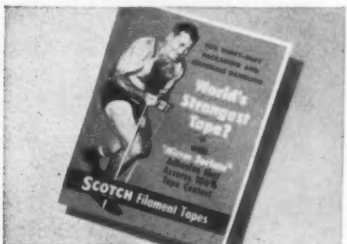
HARD-TO-HANDLE materials, such as paper sheets in bulk, can be easily packaged using "Scotch" Brand Filament Tape. Super-strong tape both seals and reinforces covering.



LARGE cartons and expendable pallets are easily closed and reinforced with "Scotch" Filament Tape. Tape won't cut workmen's hands; won't harm contents; is easily disposed of.



MAKE your own containers for odd-sized or odd-shaped products with fibreboard padding and "Scotch" Filament Tape. "Mirror surface" adhesive sticks at a touch; holds securely.



SEND FOR free booklet showing how "Scotch" Brand Filament Tape can help solve your heavy-duty packaging and materials-handling problems. Write on your letterhead to 3M Co., St. Paul 6, Minn., Dept. CG-56.

World's strongest tape?

Even 468 lbs. of wrestlers can't break it! "Scotch" Brand Filament Tape is amazingly strong, super shock-resistant. Thousands of filaments imbedded in the pressure-sensitive adhesive give it up to 500 lbs. tensile strength per inch of width. Four colors: Red, Blue, Black, White and Transparent. Ask your regular tape distributor how you can use it for heavy-duty packaging, or write us direct. Always specify "Scotch" Brand, the *quality* tape . . . and stick with it!

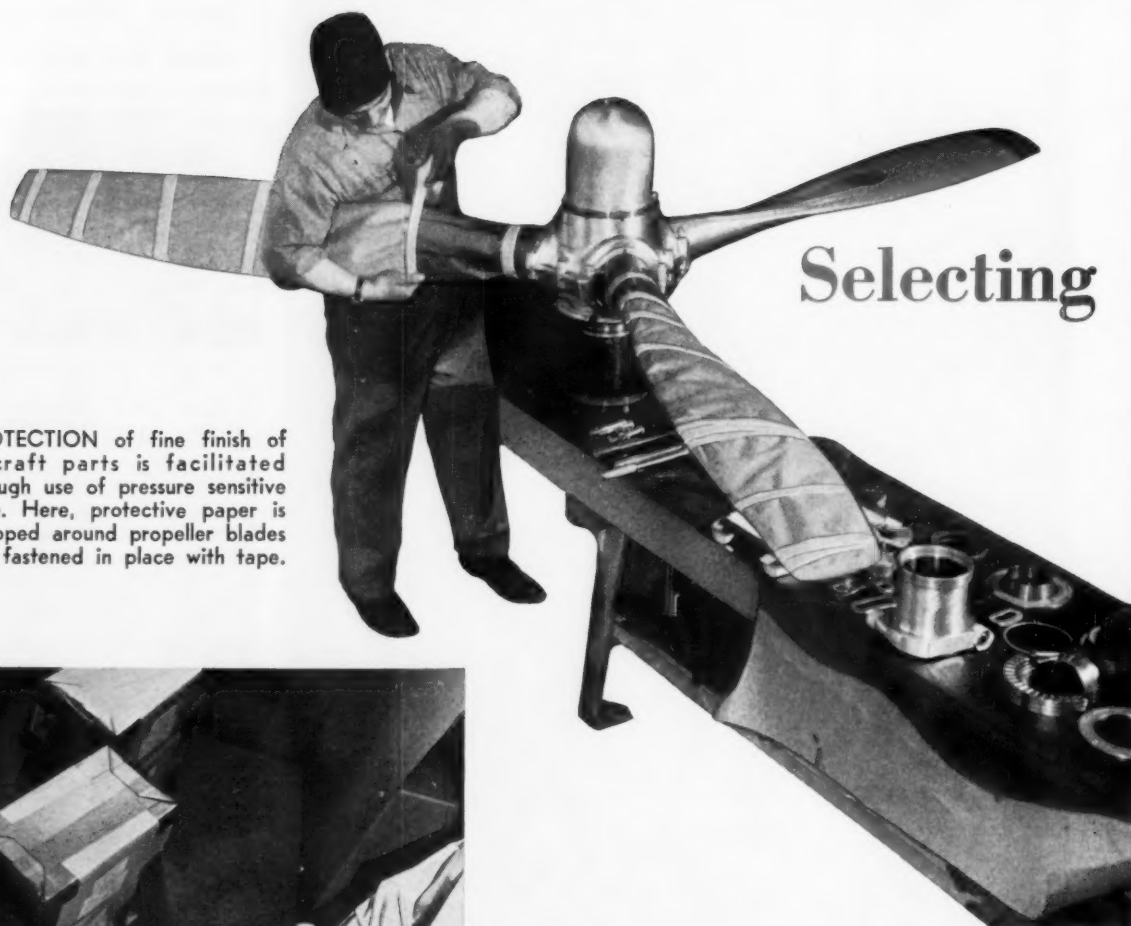
FILAMENT TAPE . . . one of more than 300 pressure-sensitive tapes for industry, trademarked . . .

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SCOTCH
BRAND

The term "SCOTCH" is a registered trademark of Minnesota Mining and Manufacturing Co., St. Paul 6, Minn. Export Sales Office: 99 Park Ave., New York 16, N.Y. In Canada: P.O. Box 757, London, Ontario.

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Selecting

PROTECTION of fine finish of aircraft parts is facilitated through use of pressure sensitive tape. Here, protective paper is wrapped around propeller blades and fastened in place with tape.



REINFORCEMENT of packages is an important function of pressure-sensitive tapes. Here, cartons destined for overseas delivery are reinforced with heavy-duty cloth backed tape. Tape helps cartons retain original shapes, assists in keeping tops and lids secure, and provides full-around reinforcement to goods.

PRESSURE sensitive tapes have resulted in major savings, in time and money, to the material handling packaging and shipping phases of all industries. When used properly, these versatile, self-sticking tapes offer speed and efficiency to material handlers at economy never before possible.

The majority of pressure sensitive tapes have been designed with a specific function in mind for each tape. The needs of various industries have been considered by tape makers and specifications of tapes have been made to conform with those needs. Thus, it is to the advantage of the user to know which tapes have been prepared especially for his use and the characteristics of each tape.

We find that pressure sensitive tapes can be grouped under four basic classifications, according to use. They are, holding, packaging, protecting and identifying.

Tapes for Holding

Holding functions of tape range anywhere from bundling, banding and binding of loose parts into place (i.e. tools and small parts for storage and dispensing) to holding assembly parts and kits for convenient handling . . . to securing doors and grids of

by Russell Klemm, Product Manager
Permacel Tape Corp.

Pressure-Sensitive Tapes

... To Be Used in Preparing Products for Shipment

Most pressure sensitive tapes have been designed with specific functions in mind for each type. It is to your advantage to know which tapes have been prepared especially for your problems.

stoves and other appliances and cabinets during shipment.

A leading producer of vegetable shortenings put a cellulose acetate film backed tape, reinforced with rayon, to use in its shipping operations to aid in unitizing shipments. The tape is used to band together quantities of small cartons for shipment as larger units and, also, to secure loads in freight cars to keep them from shifting about. Savings from the use of reinforced tape in this case resulted from: (1) unitized package handling; (2) reduction in costs of preventing in-transit shifting. Further, because the tape requires no skilled personnel for application, it can be put around cartons or unit loads in minutes.

A major appliance manufacturer is using stain-resistant cotton cloth tape to secure all loose and movable parts of washing machines and refrigerators and to hold paper coverings. The tape sticks immediately on contact to any part of a machine to which it is applied. Its use has not only increased speed of packaging and increased protection but has also facilitated readying machines for use when they reach the consumer. Tapes and paper held with tapes are removed easily and quickly.

It is important to bear in mind before any tape is applied to units such as white washing machines or refrigerators that it is a stain-resistant tape. Lack of caution on this point might result in marred merchandise and unhappy customers.

Tapes for holding are available with paper backing for light-duty work, cloth and vinyl backing for heavy work, and paper backing reinforced with glass fibers or rayon strands for extra heavy jobs.

Tapes for Packaging

The second basic use of pressure sensitive tapes is

Packaging. This use can be divided into two groups, "sealing" and "reinforcing".

Sealing applications of tape include the sealing of food packages, bags, boxes, canisters, cartons, drums and containers of all sorts. The sealing tapes are used to keep out dust, paint, or grease and to keep moisture and other elements from goods during shipment or storage.

Sealing tapes are made with paper, cellophane, cellulose acetate, vinyl, polyethylene or cloth backings.

Cellophane tapes are used mainly for light packaging, and are very popular in the food packaging and soft goods fields.

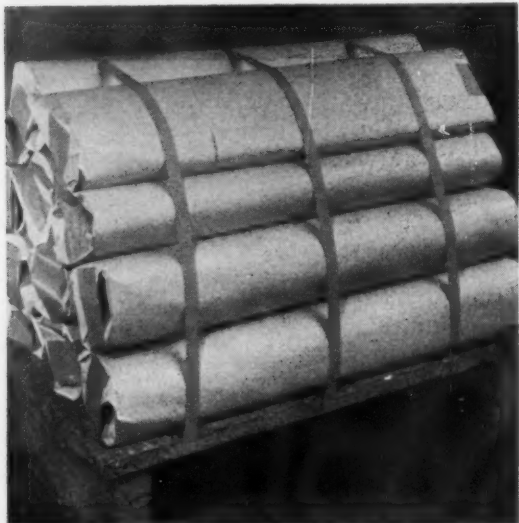
Frozen food lockers and plants, plus many retail



BUNDLING TOGETHER loose items, such as metal frames, makes them easier to handle during shipment. Because frames remain together all the way to the customer losses are prevented. At the destination, quantity counts are made quickly by multiplying number of bundles by number of units in each.



APPLIANCE MANUFACTURERS utilize pressure sensitive tapes to protect merchandise during shipment. It is important to bear in mind that tapes used on white appliances must be stain-resistant. Lack of caution on this point might result in marred merchandise.



UNITIZED LOAD is held on skid by reinforced pressure-sensitive tape. By binding small units into pallet-size lots costs can be reduced through use of mechanical handling equipment. Because of its flexibility, tape fits snugly around odd shapes in building of loads.

SELECTING TAPE

Continued

stores utilize special tapes that withstand freezing temperatures and tapes which will adhere to irregular surfaces of bulky food packages going into freezer lockers. Often, it is recommended that a tape with a crepe backing be used in freezing conditions.

Sealing tapes with a vinyl or polyethylene film backing or cloth coated with vinyl or polyethylene are resistant to oil splash or spillage, alkalis, acids, salt water, moisture and sunlight, making them especially suitable for sealing canisters or other containers of chemicals, ink, and oily solutions. The moisture-proof qualities of the tapes make them highly suitable for sealing or perishable food containers; also excellent for electrical maintenance of plant and equipment.

Reinforcing applications of pressure sensitive tapes are of special importance to shippers who use corrugated containers. Packages destined for overseas shipment and those due to be handled through long channels of distribution are particularly in need of reinforcement. Because of high adhesion qualities, cellulose acetate film and cloth tapes can be used to advantage in such instances. The tape helps cartons retain their original shapes, assists in keeping tops and lids secure and provides full-around reinforcement to packaged goods.

A ceramic parts manufacturer, encountering shipping difficulties, used pressure sensitive tape as container reinforcement to solve his problem. Until recently, when corrugated shipping cases were filled, they bulged sufficiently to prevent satisfactory stacking for shipment. Now, before the containers are filled, they are banded with a reinforced tape which successfully resists the strain of the heavy ceramic parts and all surfaces of the container remain flat. After filling is completed, another length of tape is applied to complete the reinforcement and insure delivery of unbroken packages . . . and unbroken contents.

Some reinforcing or strapping tapes used for shipping purposes, have tensile strengths as high as 240 pounds-per-inch of width. A word of caution to be heeded when selecting tapes for reinforcing or banding is, "try to select a tape of sufficient weight to do the job, but not so heavy as to be wasteful. Many users of tape believe that the heavier the tape the more successful the application. This is not really true, for the use of too heavy a tape can mean unnecessary expense.

Protective Applications

The list of protection jobs of pressure sensitive tapes is almost endless. They can be used to protect finished surfaces from scratches, mars, corrosion, chipping, cracking and stains during fabrication, assembly and during handling and shipping. Stainless steel, plate glass, lenses, prisms, instruments, threaded ends of

(Continued on page 114)

You Can Slash Packaging Time and Costs WITH **CELOTEX**

REG. U. S. PAT. OFF.

NEUTRAL pH INDUSTRIAL BOARD CUSTOM-ENGINEERED, PREFABRICATED INNER PACKS

Brace, Block, Cushion • Reduce container costs • Lower over-all packaging costs
Speed up packaging time • Prevent shipping damage

No matter how difficult it may be to pack your products . . . regardless of shape-irregularity, size, weight, or fragility . . . this can be the answer to your domestic or overseas shipping problem: Engineered, prefabricated inner packs of *Celotex Neutral pH Industrial Cane Fiber Board*!

Packs using Celotex Neutral pH Board have won top awards at packaging shows for low-cost over-all effectiveness. They were designed for packaging and shipping of valuable contents with minimum weight and cost and in maximum safety.

Precision Fabricated to Specifications

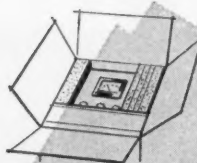
Inner packs are of strong Celotex Fiber Board manufactured from long, tough, interlocking Louisiana cane fibers, and are light and resilient. Because they can be fabricated to exacting product contours, they tightly brace, position-block,

and cushion with gentle firmness, preventing movement and impact damage. Their rigidity, strength and cushioning not only provide optimum protection, but often make the use of lighter, less-costly outer containers completely practical.

Outstanding physical characteristics of strong, yet lightweight Celotex Fiber Board: Has a neutral pH value (6.5-7.5); this low acid-alkali content is necessary in minimizing corrosion when in contact with metals. Moisture content is between 5% and 8% by weight, far less than most inner pack materials, requiring less costly desiccant.

Locally engineered prefabricated Celotex Neutral pH Industrial Cane Fiber Board inner packs can help you solve your packaging time, cost, and damage problems. Name of your nearest servicing fabricator on request. For full data, mail handy coupon today!

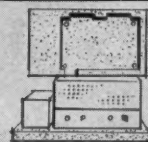
OTHER TYPICAL APPLICATIONS



Time Control Apparatus



Electronic Measuring Device



Electrical Power Unit



Jet Aircraft Parts

For proven packaging at its quick best . . .

CELOTEX

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INDUSTRIAL CANE FIBER BOARD

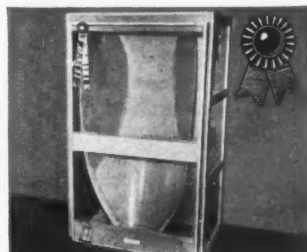
The Celotex Corporation • 120 South LaSalle Street • Chicago 3, Illinois

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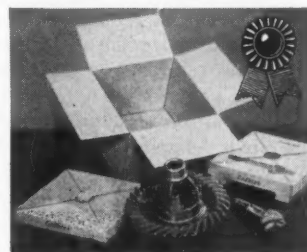
PRIZE-WINNING PACKAGING APPLICATIONS OF VERSATILE CELOTEX INNER PACKS



Assembled Mechanism for Aircraft Wheel Brake



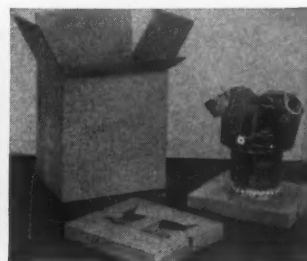
Molded Plastic Aircraft Cockpit Enclosure



Automotive Pinion and Gear



Aircraft Fuel Regulator
Temperature Control



Precision-machined Aircraft
Engine Cylinders

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The Celotex Corporation, Industrial Dept. F-56
120 South LaSalle Street, Chicago 3, Illinois

☐ Please send me your free booklet, "Cost-saving Packaging."
☐ Please furnish me a copy of the Celotex cushioning design nomogram—a chart for determining thickness of Celotex Board required for a specific packaging application.

Name Position

Company Address

City Zone State

Automatic Routing and Dispatching . . . to Trucks and Trailers

By Allan Harvey
Dasol Corporation

HERE is a typical picture of the shipping platforms of hundreds of large shippers:

Backed into the platform are several trailers, some with, some without tractors. They have been sitting there for several hours or a full day or more. On the platform are skids or piles of cartons with new shipments arriving regularly from stock or packers. Loaders, checkers and assorted platform men are standing around waiting or doing a mixed variety of tasks such as moving separate cartons by hand to different locations for loading and sorting them out by routes, positioning pallets or skids, checking to avoid "misdirects," etc.

Contrast this picture with what is today possible through the application of modern automatic controls.

When one of America's leading chain store organizations moves into its new warehouse next October, its loading platform will present a strange picture. Most of the time, there will be no trailers in its shipping bays. There will be no merchandise on the platform.

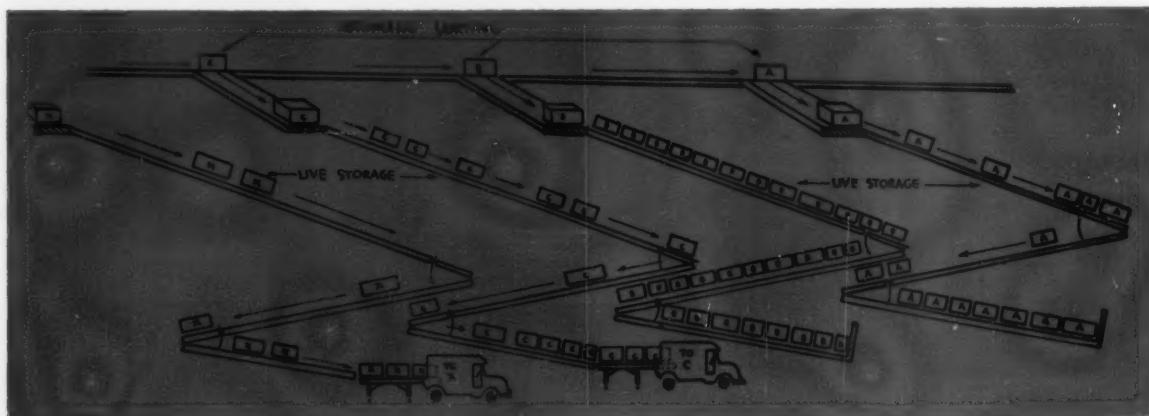
There will be no workers present except when actual loading operations are under way. Yet this warehouse will be shipping out several thousand large cartons each day.

How will this miracle be accomplished? By combining the very latest development in fully automatic sorting with gravity racks which will hold all cartons in live storage ready for loading. When, at predetermined times, the trailer trucks arrive at the bays, the racks will be bridged and the cartons will flow directly into the trucks for positioning. The key to this simple, but dramatic, change in loading platform practice lies far back of the actual platform.

Automatic Case Sealer

Each carton represents a separately packed shipment containing a variety of merchandise. After packing, the carton will be placed in an appropriate distribution rack related to its size and sent to a case

(Continued on page 142)



DOCK OPERATIONS at new chain store warehouse will be orderly and simple in comparison to present cluttered conditions. Fully automatic dispatching is made possible by control system with a built-in memory and one operator will direct 12 automatic sorts

into live storage racks. Sorting will be by destination, carrier, delivery routing or in any other desired order. Packages will be held in up to full-trailer-load quantities and instantly dispatched when the correct carrier arrives. There will be no secondary handling.

How General Box engineered wirebounds cut packing time, damage loss, and setup time for a leading supplier of platform scales



more
Wirebounds
used in 1955
than any previous year!

Where it used to take about four hours to assemble, check, and reseal a scale after shipment, it can now be uncrated and adjusted in less than 45 minutes. This is one of the major advantages reported by Fairbanks-Morse after tests and more than a year of experience with wirebounds designed in cooperation with General container engineers.

Other advantages include the reduction of packing time by half and elimination of losses from glass breakage, paint abrasion and other damage. In addition, Fairbanks-Morse is shipping 42 different models of dial scales using only two different block sets and six different wirebound crates.

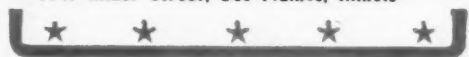
The complete package includes special blocking to protect delicate mechanisms, and a polyethylene cover to keep out dust and moisture. These weighing machines in their L-shaped crates passed all requirements of the standard National Safe Transit test series.

The design laboratories of General Box can probably help you make significant reductions in your packing and shipping costs. It's easy to find out. Just let us send a man. And we'll be glad to send the free illustrated booklet, "General Box."

Factories: Cincinnati; Denville, N. J.; East St. Louis; Detroit; Kansas City; Louisville; Milwaukee; Sheboygan; Winchendon, Mass.; General Box Company of Mississippi, Meridian, Miss.; Continental Box Company, Inc., Houston.

General Box

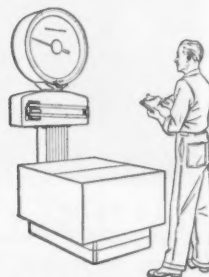
1847 Miner Street, Des Plaines, Illinois



Engineered Containers for Every Shipping Need

Wirebound Crates and Boxes • Generalift Pallet Boxes • Corrugated Boxes • Cleated Corrugated Boxes • Stitched Panel Crates • All-bound boxes

1955 Wirebound Winner
National Packaging Competition



Visit Our Booth at the Materials
Handling Exposition, Cleveland, June 5-8



MOVING VAN, equipped with special extra-wide doors, is parked at residence ready for loading. With doors open, as pictured, the bulk containers can be loaded while they are in the trailer. After container is

filled inventory is made and one copy is stapled inside cover, one copy goes to the customer, and a third one is placed in mover's office files. Thus, property is safeguarded against pilferage, loss and any type damage.

Bulk Shipping and Storing Units

**handling and storing household effectsle a remarkable increase in profits in
Revolutionary system has made possib and holds promise for other industries.**

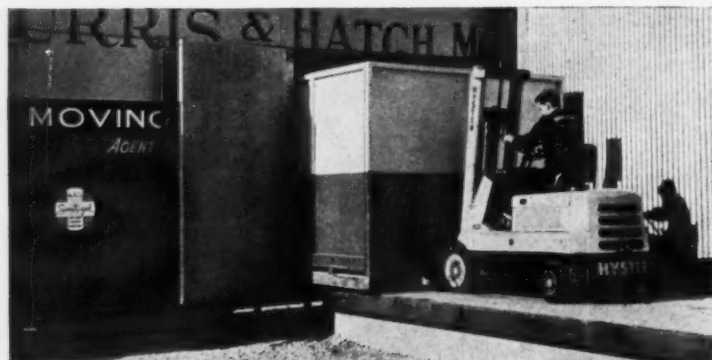
PLYWOOD bulk containers and specially adapted moving vans have reduced handling, eliminated damage and provided complete protection against pilferage of household effects being moved by Burris & Hatch Movers, Des Moines, Iowa. It is a revolutionary system which involves loading (at the residence) of household articles into containers of 364-cubic foot capacity. From then

until the articles are unloaded at the final destination, they are not touched.

Special doors have been cut into trailer sides to allow loading and unloading of the special bulk containers. Burris and Hatch has found that any type moving van may be converted in this manner at nominal cost.

At the residence, the side doors of the moving van are opened

making it possible to load the bulk containers without removing them. As each article is placed into a container it is wrapped in a cushion-type paper and taped securely, thus eliminating the need for expensive furniture pads. An inventory is made of contents—one copy is stapled inside the container cover, another copy goes to the customer and a third is
(Continued on page 138)

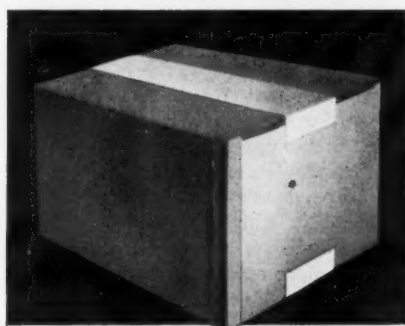


FORK TRUCK is used at the warehouse to remove bulk containers to storage or to await loading onto over-the-road vans.

WAREHOUSE STORAGE is considerably more compact than before. With 4000-lb. truck, containers may be stacked 2 or 3 high.



You save $\frac{2}{3}$
the time with
SISALKRAFT
two strip sealing



UNDER RULE 41 railroads have now approved the use of 2 strips of reinforced tape instead of 6 — and rugged Sisalkraft Sealing Tape is the tape to use. Its tough glass reinforcing withstands the roughest handling yet its flexibility makes for easy sealing. See your paper merchant or write us for more facts.

CORNER TAPED BOXES ARE BEST — You get even corners for good stacking . . . greater safety for the handler . . . no damage to merchandise. And they are best of all when closed with SISAL TAPE, the standard of the industry — or non-asphaltic LOKABOX, the world's strongest corrugator's tape.

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Glass-Reinforced
TAPES

AMERICAN SISALKRAFT CORPORATION
Attleboro, Mass.
Makers of base stock for the Gummed Paper Industry

**You can package
almost anything
better, at lower cost
with
TAPE-STRAP®
gummed filament tape**



Users report savings of time and materials up to 85%. Why not learn how Tape-Strap reinforcement can cut your packaging costs? Write for sample roll and complete data on super-strong Tape-Strap.

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New York • Syracuse • Philadelphia • Boston • Atlanta
Cleveland • Detroit • St. Louis • Los Angeles

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114

SELECTING TAPE

(Continued from page 108)

pipes and rods, precision surfaces, cutting edges and points of tools, woodwork, vitreous enamel articles like tubs and sinks are all products which can be given added protection through the use of tapes.

Cloth and paper tapes are most generally used when protection is the objective. Highly polished sheets of stainless steel, for example, are protected against abrasion during shipment by thin, tough paper and cloth tapes. Cotton cloth tapes are widely used in the aircraft industry for wrapping of spare parts. Precision apertures on parts are covered with tape to prevent openings becoming damaged during transport. Aircraft propellers are often edged with tape for protection while being shipped.

The brightwork on furniture is wrapped in tape for protection until the item reaches the consumer. Previously mentioned tape applications—holding movable parts of appliances in place and holding loads in freight cars from shifting—are further protective functions of pressure sensitive tapes.

Identifying Applications

The fourth of the basic functions of pressure sensitive tapes is identifying. Stock rotation and inventory can be simplified through color coding with colored self-sticking tapes.

Tapes are often used to mark material handling equipment and traffic lanes in plants and warehouses. Colored plastic tapes are particularly suitable for marking areas in plant and shop layout, for safety markings on pillars and low overheads, for traffic direction or flow, and placement of vehicles and merchandise.

Heavy-duty plastic tapes used for marking have colored vinyl backings and feature high resistance to abrasion. They are considered more durable than paint—are waterproof and washable, resist grease, oil and solvents and adhere firmly to all floor and wall surfaces.

Identification is an important role often played by freezer tapes. Color of tape on the package denotes the kind and cut of meat in the package, or is the key to whatever other product may be enclosed.

Many pressure sensitive tapes can be imprinted with company logo or name, or with important handling instructions. Acetate fibre tapes are used by several phonograph record manufacturers to not only seal the record containers, but, through use of various colored tapes, to aid in visual coding.

It is not difficult to see hundreds of ways, in addition to those mentioned here, where pressure-sensitive tapes can provide valuable assistance in packing, shipping and general material handling. When the basic functions (holding, packaging, protecting and identifying) are understood and when tapes are properly used for each function the results can be important savings in time and money.

FLOW



DIRECT-TO-CARTON? Here's a shipment addressing system that can't be beat for sheer simplicity. Cartons are pre-printed with label-frame. Customer's address is imprinted within frame with Weber hand-printer and stencil. A fast, neat, one-hand operation.



OR LABELS? The Weber Label Printing Machine, Model KC-E, prints shipping labels from die-cut stencil, fills in customer's address and cuts labels to size . . . all in one operation. Gives you complete control over label inventory and preparation. Ideal for product identification labels, too.

Look what Weber can do to modernize your shipping operation

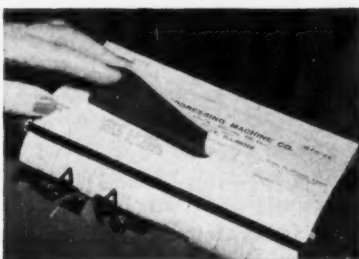
The surest way to get shipments out faster, at less cost and with fewer errors is to simplify your shipment addressing operation. And that's exactly what Weber can do.

Pictured on this page are some Weber Systems now being used by thousands of efficiency-wise shippers in every industry. Whether you address directly on containers or prefer labels there's a Weber System available to get your multiple shipments addressed quickly, accurately, inexpensively.

And a Weber System will fit right into your paperwork procedure, too. The inexpensive paper stencil that does the addressing can be cut simultaneously with forms or separately . . . by hand or on typewriter . . . and on automatic tabulating equipment, tape-operated typewriters, metal plate addressing machines, Teletype and other modern office machines.

Be sure to investigate the remarkable advantages of Weber Marking Systems right away. See the coupon below.

Weber Stencils can be integrated with any paperwork procedure



WEBER STENCILS are available in Tab-On style for simultaneous preparation with invoice, bill-of-lading or shipping forms, or . . .



MOUNTED on marginal punched carrier sheet, Continu-matic Stencils are quickly cut independently of paperwork, then correlated with forms.



MODERN OFFICE MACHINES, such as automatic tabulating equipment, Teletype and Flexo-writer cut Weber stencils as part of user's paperwork procedure.

Weber marking
systems

Division of Weber Addressing Machine Co., Inc.
Mount Prospect, Ill.

CREATORS OF SYSTEMS AND EQUIPMENT
FOR ADDRESSING AND MARKING

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Mount Prospect, Illinois.

Please send me information about

- ☐ Direct-to-Carton System ☐ Shipping Paperwork Procedures
☐ Label Printing System ☐ Have your representative Call

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FIRM.....

STREET.....

CITY..... STATE.....



Corrugated Box is . . .

...Two Sizes in One

HERE'S a corrugated box which is permitting tomato packers, and repackers, both, to save on their packaging costs. Designed to hold 50 pounds of bulk tomatoes, it is easily converted by the repacker to form two twenty-tray boxes.

Packing houses around Homestead, Florida recently used the boxes for shipments to the repacking plant of a large national chain in the metropolitan New York area. Reports indicate that the tomatoes arrived at destination in

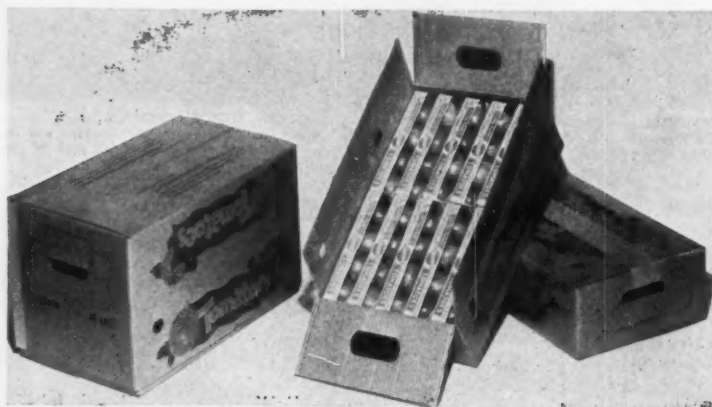
better condition than tomatoes shipped in conventional containers.

Figures for these shipments showed that savings in container costs amounted to \$17.50 per load (using average car or truckload of 25,000 pounds of tomatoes). Furthermore, it is expected that freight savings on rail shipments from Florida to New York City will range from \$15. to \$20. per car.

The principal advantage of the

box came from its re-use feature. As illustrated, a simple operation converted each half of the box (top and bottom) into a complete twenty-tray repack box. Thus, each of the original shipping containers provided the repacker with two *free* twenty-tray boxes. This meant that the re-packer did not have to buy boxes for retail distribution of his tubed or bulk tomatoes. It represented a saving of approximately $\frac{3}{4}$ cent per pound.

Courtesy Union Bag & Paper Corp.



TWO-SIZES-IN-ONE tomato shipping box holds 50 pounds of bulk tomatoes when shipped by the tomato packer. When produce has been repacked each half of the original shipping box becomes a twenty-tray box. Thus, repacker need not buy his shipping boxes.

Costs go
down
when
loads
go up



on ACCOPAK* Pallets

Low cost, expendable paper pallets cut loading costs up to 50%, unloading costs as much as 75%

WHY DIDN'T SOMEBODY think of this before? An inexpensive pallet of kraft paper for quick, easy shipping and reclaiming of unitized loads . . . a pallet that gives shippers and receivers *all* the economies of multiple-decking in warehouses, freight cars or trucks . . . a pallet made of paper and paper tubing yet easily carries up to 4,000 pounds; costs so little it's disposable — that's the ACCOPAK Pallet, conceived by American Cyanamid Company engineers to speed handling of bagged commodities.

Thoroughly tested in Cyanamid's plants, ACCOPAK slashed loading costs and time up to 50% on most products shipped in bags. Savings on received shipments were even more dramatic. Now, its merits fully established, the ACCOPAK Pallet is available to industry.

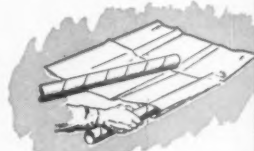
Here's how it works—

Paper tubes inserted in the side sleeves of the kraft paper sling provide easy access for

bayonet-type forks which are readily attached to any fork lift truck. These forks lift the palletized load, and the truck then moves off to deposit the entire unit, in the usual manner, in freight car, truck or warehouse.

But, here's the *big* difference between ACCOPAK and other pallets. With ACCOPAK, loads can be multiple-decked without use of space-wasting platforms between tiers, yet upper tiers can be easily reclaimed without tearing of bags. With ACCOPAK, more cars can be loaded to maximum weight to meet minimum freight rates . . . unloading costs and time are sharply reduced . . . warehouse space can be used more efficiently.

If you ship or receive bagged materials, investigate the economies of ACCOPAK. Use the coupon below to find out how ACCOPAK Paper Pallets can effect spectacular savings in *your* handling costs.



AMERICAN CYANAMID COMPANY
Paper Chemicals Department
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New York 20, N. Y.

Send me your descriptive folder, "Halving Handling Costs with ACCOPAK Paper Pallets."

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Company _____

Street _____

City and State _____

*Trade-mark

AMERICAN Cyanamid COMPANY

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NEW YORK 20, NEW YORK
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ZINC SLABS: Unitizing increases handling efficiency—Idea No. U6-3

AIM* for new cost-cutting steel

*Your Acme Idea Man can be the key to new packaging and shipping economies for your plant. Talk to him. He may give you a new Acme Steel Strapping idea that can result in easier handling, faster and safer shipments for you.

A continuous flow of steel strapping ideas reaches every Acme Idea Man from nationwide sources. Thus you have the benefit of proved methods . . . *ideas in action*. From one of these may come an entirely new concept of what

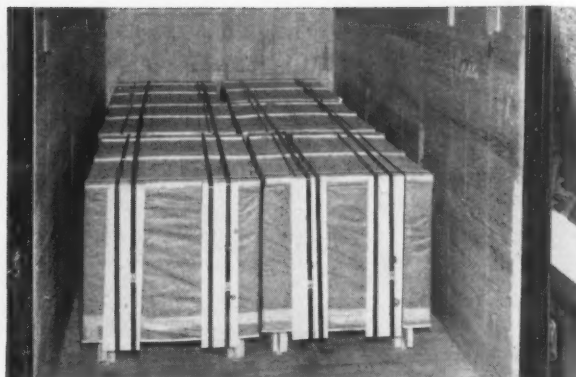
ACME STEEL STRAPPING



FLOW



KD BOXES: Strapping machine compresses and unitizes—Idea No. S3-14



PAPER: This strapping method means better protection—Idea No. U1-3



MEAT: Strapped cartons ship safer, store better—Idea No. S5-2



LUMBER: Strapped packages stored outside—Idea No. S2-7



BRICK: Packaging assures fast, economical handling—Idea No. S3-15



WAX BLOCKS: Automatic strapping ups packaging rate—No. S1-1

strapping ideas

steel strapping, properly applied, can do to produce important savings for you wherever goods of any size or shape are stored or moved.

Call your Acme Idea Man at the nearest Acme Steel office . . . or use the coupon.

ask your **Acme Idea Man**
to help solve your problems

MAY, 1956

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Scores of cost-cutting, time-saving ideas are yours in these two valuable booklets covering Acme Steel Strapping and Unitizing. They are free. Send today!



Acme Steel Products Division,
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Please send the new Acme Steel Strapping Catalog ☐ Unitizing Book ☐
Have an Acme Idea Man call ☐

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Company _____
Address _____
City _____ Zone _____ State _____

THE SnakeTape IDEA...



*For rail shipments
under Rule 41 U.F.C.

use 2 strips only!

CUTS LABOR 2/3 because you seal only the two center seams!

IT'S STRONGER because reinforced Snake Tape has strap-like strength. Strength you'll find in no other gummed tape because it's reinforced with rayon yarns . . . the same rayon yarns used in the best auto tires for superior shock absorbance.

PROVE TO YOURSELF, and at our expense, how much you can save in sealing time and in damage claims. Send for **FREE** sample of Angier Snake Tape now.

Free - 15 yd. sample



ANGIER CORPORATION
Framingham 13, Mass.

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120



K. P. Lane

J. R. Miller, Jr.

W. J. Pierpont

Wirebound Makers Elect New Officers

At its annual meeting at Belleair, Florida, the Wirebound Box Manufacturers Association elected the following officers:

John R. Miller, Jr., of the T. R. Miller Mill Co., was elected president to succeed Neil A. Fowler of General Box Co. who had served two one-year terms and was elected

vice-president to succeed J. A. Sowell. Newly elected directors are: G. W. Thompson, Indianapolis Wire Bound Box Co.; K. P. Lane, David M. Lea and Co.; Wallace J. Pierpont, Pierpont Mfg. Co.

In the photograph, above, are, (left to right) K. P. Lane, J. R. Miller, Jr., and W. J. Pierpont.

For

MODEL A

LOW COST STORAGE
shipping and handling

USE ...
**COLLAPSIBLE
TIGHT-CORNER
PALLET BOXES**

ENGINEERED BY

- Economical
- Safe and Nest
- More Convenient
- Quickly Assembled
- Handles up to 5000 lbs.
- Collapsible When Not in Use
- Specially Made For Your Needs

30 Years Material Handling Experience

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lumber company
370 W. MURPHY STREET • CHICAGO 10, ILLINOIS

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**CAPCO
DOCK COVERS**
GIVE
YEAR 'ROUND PROTECTION

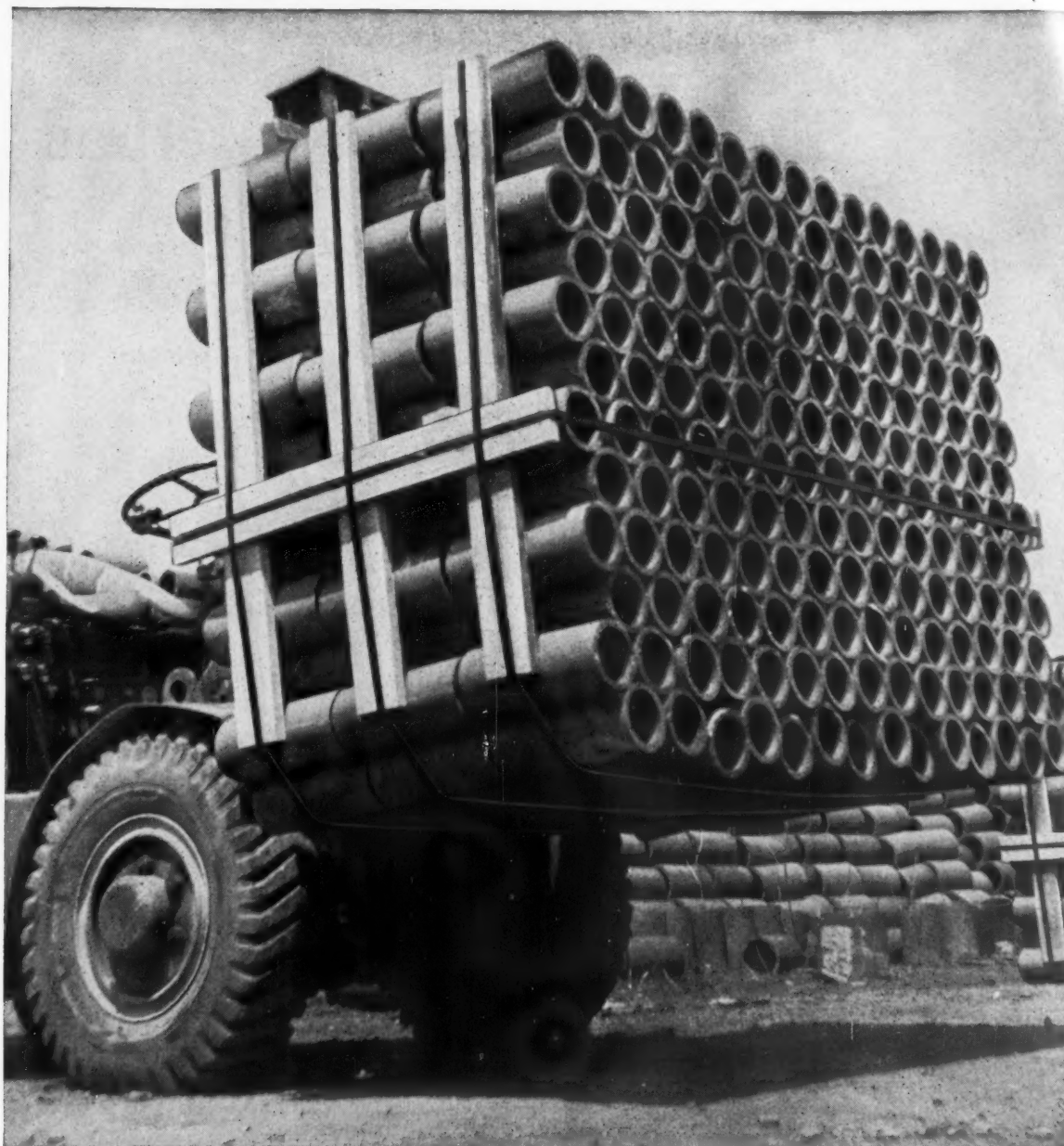
CAPCO Dock Covers completely enclose the space between car and building doorway protecting loading and unloading during bad weather... preventing accidents... insuring against loss of heat or refrigeration. 31 different models in any size for every loading problem.

Write for literature and name of nearest distributor.

CAPCO

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FLOW



Profit Launcher

Here's how 48¢ worth of Signode steel strapping can tie together 1¼ tons of drain tiles, so that they can be handled and shipped as a unit. This way saves time (and tile) for shipper, receiver and ultimate user. Unitizing with high-strength, low-cost steel strapping works equally well with castings, forgings, ingots, brick, sheets, cartons, products of many shapes and sizes. Your products, too, will cost less to handle, store, ship and receive when unitized the Signode way. Let a Signode representative show you how. Just write:



SIGNODE STEEL STRAPPING CO.

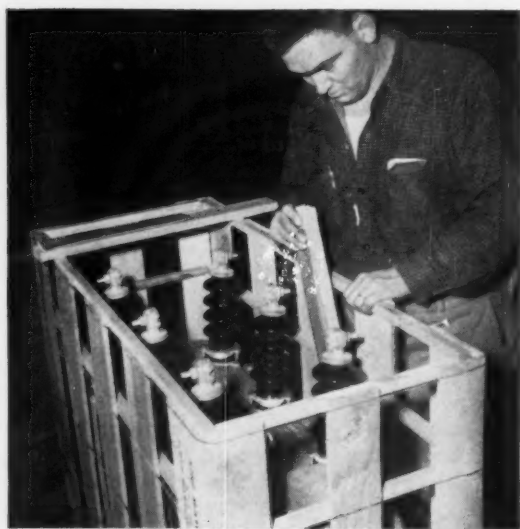
2618 N. Western Avenue, Chicago 47, Illinois

Offices Coast to Coast. Foreign Subsidiaries and Distributors World-wide.
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

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Simple Packaging Method

HOIST is used to place 700-pound oil-filled electric circuit recloser onto prefabricated base of wirebound crate. Base has attached built-up wooden blocking that will hold the unit against shifting during shipment or handling. Wrap-around wirebound mat is waiting behind operator.



INTERIOR PACKING consists of four simple pieces of pre-cut wood with cushioning material stapled to them. Two are inserted on each side between the unit and the slats of the wirebound crate after the mat is wrapped around the crate base to form the four sides and is closed with twisted wire fasteners.



CRATE TOP is dropped into place and nailed to crate sides to complete packaging of a 700-pound oil-filled Kyle Type R Heavy Duty Oil Circuit Recloser. Overall packaging time has been just 24 man-minutes, including conveying unit from production line and writing out tag. Tare weight is less than 12% of total.

for Complicated Units

Odd shape, concentrated weight and delicate mechanism are all characteristics which add up to a tough packaging problem. Here's a company which not only solved its protective packaging difficulties, but improved the efficiency of its packaging operations and of material flow at the same time.

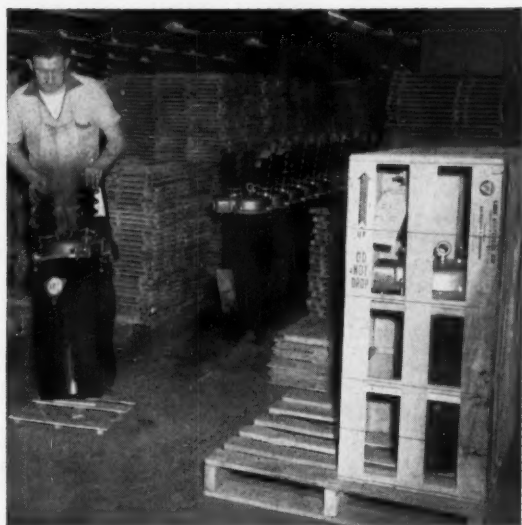
AN OIL electric circuit recloser is a delicately adjusted mechanism that features both sturdy and fragile parts and must be protected during shipment and handling against spillage of oil, denting of its steel tank body and cracking or breaking of its protruding porcelain bushings. Its odd shape, concentrated weight and peculiar inherent characteristics, such as spillable oil and breakable bushings, make it a real packaging-for-shipment problem. It is built for outdoor use under even the worst climatic conditions and is often stored outdoors before use. Hence, the shipping containers must be weather resistant.

All these problems were overcome by the Kyle Products Plant of the Line Material Co., South Milwaukee, Wis., by adoption of wirebound crates for its

11 different models, styles and sizes of oil-filled electric circuit reclosers.

The largest unit, the Kyle Type R Heavy Duty Recloser, weighs 700 pounds, including oil, and is valued at over \$1600. It is packed for shipment in only 24 man-minutes, including conveying from the production line to the packing area and filling out the shipping ticket.

The steel tank body of the Type R recloser is oblong, but it is mounted by six porcelain bushings that protrude like antenna and must be protected against damage during shipment and handling. Protection is achieved with a package weighing only 92 pounds, including the sturdy built-up prefabricated wooden base, special wooden interior blocking, one-piece



PRODUCTION LINE for 155-pound cylindrical units ends at packaging area. Wirebound crate uses base on which small wooden blocks have been positioned to prevent shifting. Note that recessed bottom of cylinder fits over blocking. After packaging, units are placed four-on-a-pallet for more efficient handling.



WIREBOUND MAT is a one-piece unit that forms the four sides of the crate. It has been designed so that bottom cleats of the sides engage underside of base. Intermediate cleats engage special wooden interior blocks that fit over packaged unit's mounting bracket. Blocks will be nailed in place after crate is closed.

THE ANSWER...



-to many BAG CLOSING problems!

SEND for this new BULLETIN No. 201 which illustrates and explains how *Union Special Suspended Head Bag Closing Machines* can supply the answer to bag closing problems in small plants and large operations. Don't handicap your production with equipment that has limited capacity!

Union Special Bag Closers are designed to handle bags of heavy weight as well as light weight materials. These units are portable. Delivered to you complete with integral motor, thumb controlled clutch, automatic brake—ready to hang up, plug in, and go to work.

Union Special SUSPENDED HEAD BAG CLOSING MACHINES

Union Special MACHINE COMPANY
415 N. Franklin Street, Chicago 10, Illinois

Gentlemen:

Please send me your new free Bulletin No. 201 describing Union Special Suspended Head Bag Closing Machines.

Name _____

Address _____

Company _____

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124

SIMPLE PACKAGING

Continued

wirebound wrap-around blank that comprises the four sides of the container and the crate top. This over-all tare weight is less than 12 percent of the gross shipping weight of 792 pounds.

Packaging Procedure

The first packaging step is the lowering of a recloser (by a hoist) onto the base of the crate. The base has built-up wooden blocking to hold the 700-pound unit on all sides and to prevent shifting.

Time required for packaging has been greatly reduced through use of a wirebound wrap-around plank which needs only to be folded to form the four sides of the crate. It is wrapped around the base of the crate so that the blank's bottom end cleats snugly engage the under-edges of the base. The blank is closed with twister wire fasteners before placement of special interior blocking.

Interior blocking consists of: (a) two wooden pieces of wood, with stapled-on cushioning material, that are slipped between each side of the recloser and slates of the crate; (b) a heavy piece of wooden blocking that is placed across the top of the unit and nailed to slats. The crate top is secured in position with a few nails.

Reclosers are shipped both to Line Material Co. warehouses and direct to customers, principally utility companies. Most shipments are less than full carloads or truckloads.

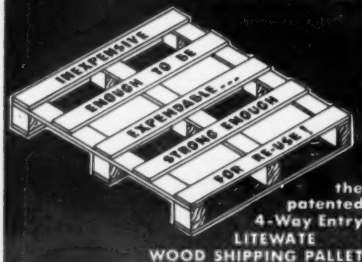
At the destination, crated units are frequently stored outside until needed for use. This requires the containers to withstand rough weather and additional handling. The use of open crates acts as a deterrent against such mishandling as carrying or loading units upside down which would result in oil leakage and breakage.

Courtesy Wirebound Box Manufacturers Association

Circle No. 26 on Reader Service Card

for **TRUE
ECONOMY**
standardize on

ACME "ZEFERWATE" PALLET



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Wirebounds

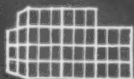
used in 1955

than any previous year!

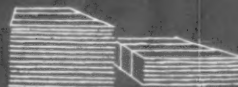
BECAUSE

WIREBOUND BOXES AND CRATES

STACK BETTER



STORE BETTER



AND HANDLE BETTER



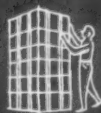
INSIDE OR OUT

IN ANY KIND OF WEATHER



NOTHING

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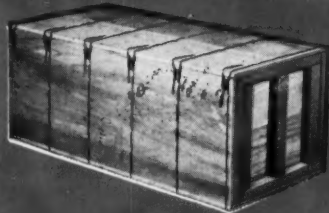


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NOTHING

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INVESTIGATE WIREBOUNDS NOW!

Write on your letterhead for:

- ☐ A Sales Engineer To Call
- ☐ What To Expect From Wirebounds (booklet of general application) and/or Booklets of Specific Wirebound Application To
 - ☐ Materials Handling
 - ☐ Stacking and Warehousing
 - ☐ Packing and Handling Heavy Loads

WIREBOUND BOX MANUFACTURERS ASSOCIATION

327 South La Salle Street, Room 1171, Chicago 4, Illinois



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**Go Power Truck with
Chestnut
POKE-PAK**

MEAD
board

Human carriers have small place in modern handling. Labor and time are too valuable. The efficient way to handle bag loads is to spot-glue them on Chestnut Poke-Pak—the ultimate in pallets. This rigid, light, tough fiberboard supports any weight your power truck can lift, carries as one unit to final destination. So inexpensive it's expendable. Better than wood pallets; eliminating credits, charge-backs, return freight, and torn bags. Omit floor lining, cover only car end walls. Store 60 to 70 Poke-Paks in space of one wood pallet. Economical, convenient for manufacturer, shipper, consignee, user!

FREE CONSULTANT SERVICE available from our nearest office; carloading diagrams, bag patterns, samples of Poke-Pak, made to fit any size bag unit, truck or car. Write for the complete story, including informative brochure.

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SALES OFFICES: MEAD BOARD SALES, INC.

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DETROIT 35, MICHIGAN 18045 James Couzens Hwy.
BOSTON 15, MASSACHUSETTS 43 Leon Street



POKE-PAK COSTS SO LITTLE IT'S EXPENDABLE

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S.I.P.M.H.E.

Names

Short Course

Coordinator

STEPHEN W. Vasquez, Dean of the School of Commerce and Finance of St. Louis University, has been named coordinator of the annual technical short course that will be conducted by the university for the Society of Industrial Packaging and Material Handling Engineers in St. Louis next Oct. 22-25.

The short course will be held in meeting rooms and auditoriums of St. Louis' Kiel Auditorium in conjunction with the annual Protective Packaging and Material Handling Competition and the Industrial Packaging and Material Han-



Stephen W. Vasquez

dling Exposition, both of which will be held in the same building. The short course will stress cost analysis, methods and human relations in production and management, according to John W. McReynolds, national president of SIPMHE. It will provide a curriculum of lectures and demonstrations in both technically advanced levels of protective packaging and material handling engineering and in more fundamental subjects for newer members of the profession.

THE **AIR-OPERATED BOXER** CHAMPION

OF THE
PACKAGING
INDUSTRY



*Staples Carton from
outside... after it's filled*

A real champ in the lightweight class (weighs in at only 8 lbs. 12 oz.)
—staples cartons in mere seconds, after they're filled... Two cycle
air motor makes carton stapling easy and simple in one complete
operation. Squeeze trigger—Air Boxer does the rest... Takes on
all comers—whether they be center slotted, partial or full overlaps,
or telescope-type carton closures... at speeds up to 300 per hour.
A real winner, even in the clinches. Adjustable Penetration Control
regulates depth of staple for full or blind clinching, prevents
possible damage to fragile merchandise.

INTERNATIONAL STAPLE AND MACHINE CO.
East Herrin St., Herrin, Ill.

Gentlemen: Send me more facts on the new International Air
Boxer

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

INTERNATIONAL
Gold Crown



International Staplers

INTERNATIONAL STAPLE & MACHINE COMPANY

Originators of Carton Closing Staplers

808 E. HERRIN STREET

HERRIN, ILLINOIS

Circle No. 89 on Reader Service Card for more information

MAY, 1956

127

Wrapped and Strapped Loads Result in . . .

Savings for Shipper and Receiver

FLAT cars are now being used by the United States Plywood Company to cut costs in shipping. This has been achieved through the use of waterproof, reinforced

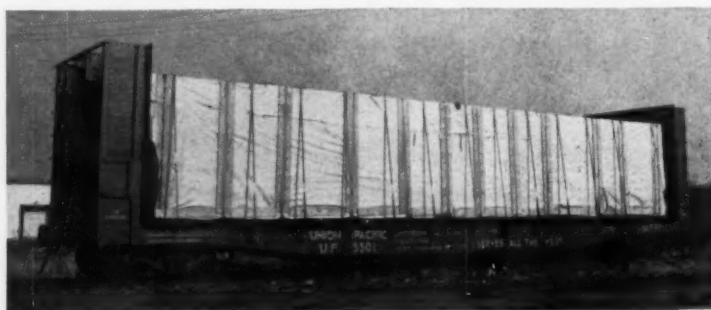
paper for wrapping the loads and then by securing them with steel strapping.

The photograph shows a fully loaded flat car on arrival at the

U. S. Plywood warehouse in New York after 25 days shipment across country. Upon arrival, the paper was found intact and the plywood was found clean and dry, even though the car left for New York in one of the severest storms California has ever experienced, and was exposed to extremely heavy rains and snow on the journey.

Full use of mechanical lifting equipment was exercised to aid in the reduction of costs in loading and unloading operations.

Courtesy of American Sisalkraft Corporation, and Acme Steel Co.



Eliminates Shipping Labels! **PRINT DIRECT**

♦ **Speeds Up Freight Marking** ♦

Quick! Accurate! Easy! Print shipping information direct on cartons, boxes, packages. Eliminate double operation of preparing labels and then pasting them to the containers. Get 1,000 or more clear, sharp impressions from one stencil without re-inking. New FORM-CUT Stencil has facsimile of your label or shipping form die-impressed into the stencil. Then type or write in address or identification data . . . attach to duplicator . . . and print, like using a rubber stamp. Write for Literature and FREE SAMPLE FORM-CUT STENCIL AND PRINT.

THE ORIGINAL HAND STAMP
STENCIL DUPLICATOR



Also for addressing snipping tags and labels . . . prints, postcards, menus, forms, bulletins. 8 complete outfits: \$9.50 to \$99.50, including supplies (f. o. b. factory), at office or shipping room supply dealers.

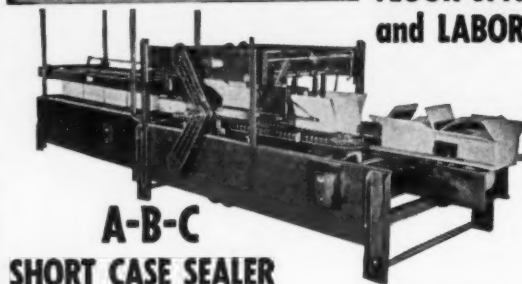
MULTISTAMP
STENCIL DUPLICATOR
MANUFACTURED ONLY BY THE MULTISTAMP CO., MORGAN, VIRGINIA



Circle No. 132 on Reader Service Card



**Save
FLOOR SPACE
and LABOR**

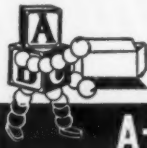


A-B-C SHORT CASE SEALER

Save two-thirds of your valuable floor space with the A-B-C Short Case Sealer—with increased packaging efficiency, more speed, less expense . . . Automatically glues, folds and seals either or both top and bottom flaps of shipping cases in one operation. Made in eight models to fit any production requirement. Hot air heaters dry the glue in one-half the time. Speeds up to 30 cases per minute.

**TOP QUALITY
CASE HANDLING
EQUIPMENT**

Whatever your packaging job, A-B-C has a production proved machine for you—case sealers, unloaders and unscramblers, side sealers, and hand gluers.



**WRITE NOW FOR DETAILS
AND FLOOR PLANS**

A-B-C PACKAGING MACHINE CORP.

Quincy, Illinois Tarpon Springs, Florida

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FLOW

How USS GERRARD speeds handling—cuts costs



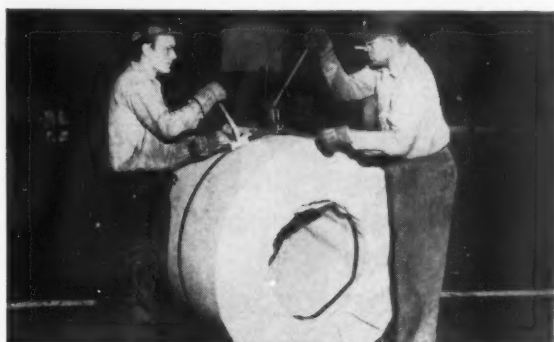
"We have been able to cut handling time, give our customers better service, balance our work load, save storage space, and reduce brick breakage through the use of USS GERRARD Round Steel Strapping," says Glen-Gery Shale Brick Corporation of Reading, Pa., largest building brick manufacturer in the East. Glen-Gery uses 12-gauge USS GERRARD Round Strapping to package bricks in easy-to-handle units of 500.



"We rely on USS GERRARD Strapping to get our houses to the building sites in perfect condition," says West Coast Mills, Chehalis, Washington, manufacturers of prefabricated Far West Homes. These attractive prefabs are shipped all over the United States by rail and truck, bundled securely with USS GERRARD Round Steel Strapping. They arrive consistently at the building sites with every piece intact.



"We reduced handling time by 75%, increased storage space by 33%, and cut shipping damage to less than 1%, by palletizing our tuyeres with USS GERRARD Flat Steel Strapping," says Climax Fire Brick Company of Climax, Pa., producer of 60% of the nation's requirements for these odd-size Bessemer Furnace fire bricks.



Waterproof-wrapped for shipment, this coil of sheet steel is being reinforced with USS GERRARD Flat Steel Strapping. Notice how strip of strapping inside coil exerts outward tension, keeping protective paper in place.

Bring your packaging-tying problems to USS GERRARD. Regardless of what they are, our engineers will help you find the safest, surest, most economical solution to them.

NEW CATALOG—HOT OFF THE PRESS! 36 pages of photographs, descriptions, facts and figures on all USS GERRARD Steel Strapping and associated equipment.

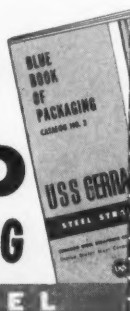
GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
GENERAL OFFICES: CHICAGO, ILLINOIS



USS GERRARD

Round and Flat STEEL STRAPPING

UNITED STATES STEEL



Gerrard Steel Strapping
2937 West 47th St., Chicago 32, Ill.

Please send me, free of charge, the new 36-page GERRARD Blue Book of Packaging.

Name
Company
Address
City State

Circle No. 73 on Reader Service Card for more information



Plastic Slip Covers for unit loads

The Alexander H. Kerr & Company this month began experimental shipment to Northern California food packers, of palletized cartons of glass jars protected by polyethylene slip covers.

The plastic covers are rectangular

and fit each pallet load snugly enough to protect the cartons from dust, rain, and scuffing due to friction between shifting pallet loads, or from rubbing by tied tarpaulin covers. Experimental use of the plastic sleeves may also re-

sult in savings in time and labor required for loading when present scuff protecting methods are used. This will speed up loading and delivery of the truck lots.

The polyethylene covers will be used on further trial shipments as a means of determining their serviceability and durability. When the results of all these experiments are in, Kerr officials will evaluate the practicability of using the covers on palletized truck shipments to packers on the Pacific Coast.

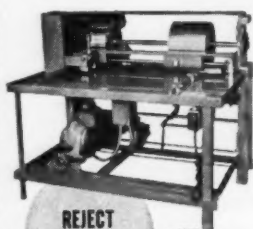
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industrial's
NEW
AUTOPRINTER!

With the new, modern Autoprinter, you date, mark or code multiwall bags and containers as you need them! Completely automatic and electronically controlled, the Autoprinter works right with your production line... at up to 3,000 impressions per hour!

Investigate how the Autoprinter can speed your operation, save container pre-printing and storage costs, and eliminate costly manual marking expense.

Write for details and catalog today. Dept. FL



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SAVINGS

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INDUSTRIAL MARKING EQUIPMENT
454 BALTIC STREET company, inc.
BROOKLYN 17, N.Y. MAin 4-2601

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130

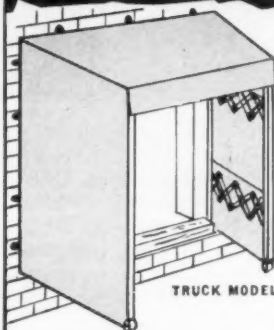
Tunnels for Safety

DAZZO DOCK SHELTERS

Provides a foldable tunnelled passageway between building door and truck or freight car door.

Protects your loading dock loaders and merchandise against rain, sleet, snow or driving winds. Eliminates accidents and loss of traction, due to wet and slippery conditions.

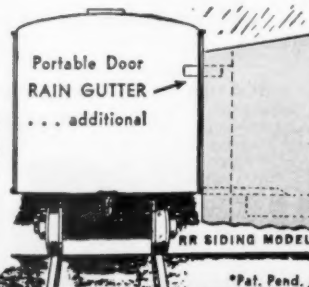
Protects against changes in temperatures when doors are opened for loading.



TRUCK MODEL

DAZZO PORTABLE FREIGHT CAR DOOR RAIN CUTTERS

Prevents rain or melting snow from sliding off car roof onto door opening... thereby avoiding wet and slippery dock boards.



Portable Door
RAIN GUTTER
... additional

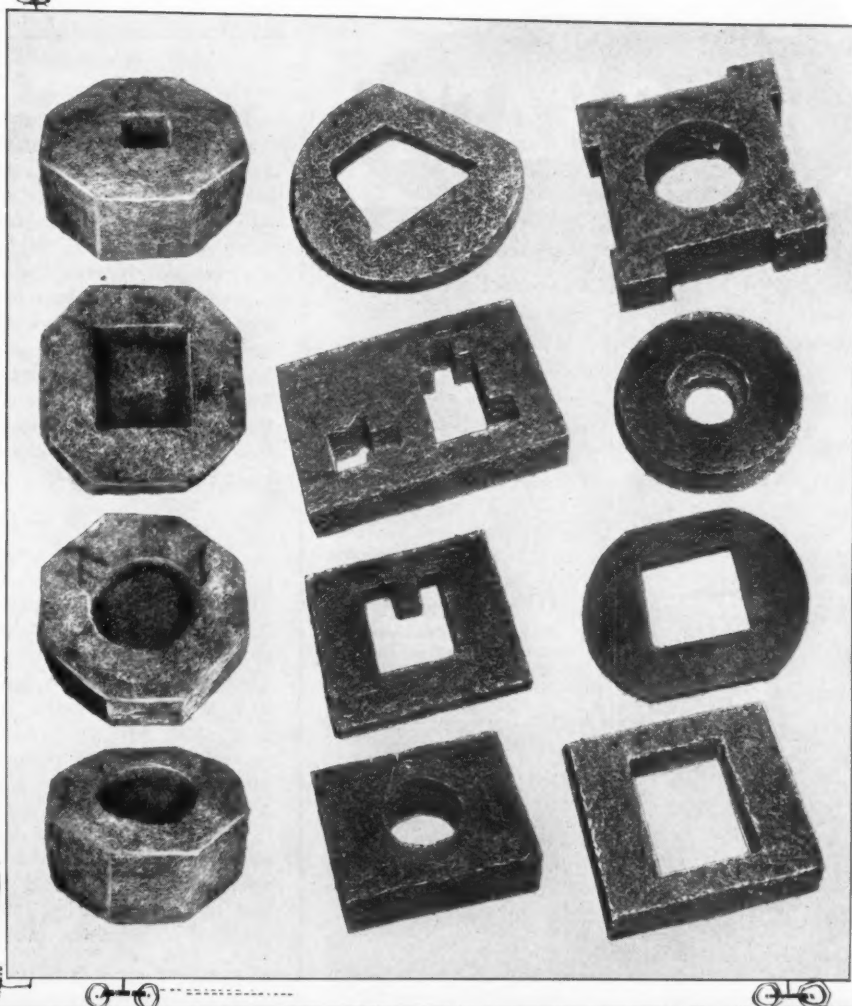
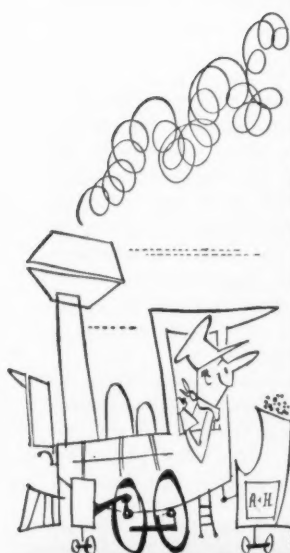
Models for all types of cars

Write for literature...
specify your requirements to Dept. F

*Pat. Pend.

DAZZO PRODUCTS CO.
152 Bleecker Street • New York 12, N.Y.

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FLOW



Ship safely with

HAIRFLEX protection

Your product is safely on its way when it's shipped in HAIRFLEX. Springy curled hairs locked in latex rubber absorb even the hardest in-transit shock and vibration. No matter what shape your product is—square, round or irregular—it can be shipped in HAIRFLEX protection. You can order HAIRFLEX in sheets or rolls of various sizes, thicknesses and densities. Armour will also design a die-cut or custom-molded pack specifically for your product.

ARMOUR

Curled Hair Division

Armour and Company • North Benton Road • Alliance, Ohio

MAIL THIS COUPON TODAY!

Armour and Company, North Benton Road, Alliance, Ohio

- Please send me: ☐ A Free Sample of HAIRFLEX
☐ Booklet—"Packing For Maximum Protection"
☐ Pack specifications and cost estimate for my product (description enclosed).

Name _____

Firm _____

Address _____

City _____ Zone _____ State _____ F5

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MAY, 1956

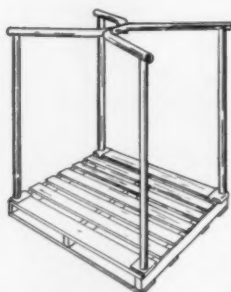
131

TIER-RACK

TRADEMARK REGISTERED

STACKING PALLETS

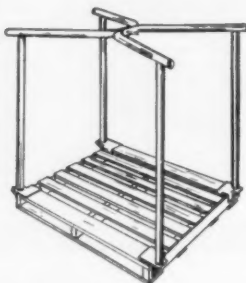
TIER-RACK is constructed of the finest electric welded hot roll mechanical steel tubing. Designed for strength and durability, each model is made in both 1½" diameter x .095 wall thickness for loads under 2,000# per tier and 1¾" diameter x .109 wall thickness for loads over 2,000# per tier. Each tested for over 9,000#. Frames are degreased and furnished painted with shop gray enamel paint; Model I-F has blue decal, Model O-F has red decal.



MODEL I-F

Feet are positioned at the corner of end deck boards over the stringers. This model should be used when full pallet deck area is not required.

Patent Pending



MODEL O-F

Upright columns are supported outside the pallet area, thereby giving complete use of the deck. This model recommended when full deck area is needed.

(Either Model Tier-Rack Snaps onto Pallet)

No bolts or nuts
No extra hardware
No special attachments
Frames snap onto your pallet and lock in place
Can be assembled in a few seconds by one man.

TIER RACK IS A PRODUCT OF . . .
EXPERIENCED PALLET MANUFACTURERS

CENTRAL, WEST AND SOUTH
J. R. PERKINS LUMBER CO.
122 N. SEVENTH STREET • ST. LOUIS 1, MO.

EAST AND SOUTHEAST
SOUTHERN LUMBER & MFG. CO.

855 AVENUE OF THE AMERICAS, NEW YORK, N. Y. also Elgin, Ga.

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132

THE MANUFACTURER

(Continued from page 70)

In practically all industrial plants today, efficient operation depends, in a major degree, on the material handling equipment. Recognizing the fact that even the very best engineered and maintained equipment will develop mechanical problems or weaknesses, many user companies weigh the availability of service when selecting handling equipment.

Many future sales have been forever lost by vendors who are not able to provide mechanical advice to a user whose maintenance people are not able to solve a specific problem. It is a manufacturer responsibility which will become more and more important with the increase in types of transmissions, electronic controls and hydraulic attachments furnished with equipment today.

5. Keep in touch with the user.

Periodic contact with users is a vital necessity which many sales representatives have not quite understood. That may be due to pressure placed on them by the home office for more sales, but the importance of periodic calls on the user cannot be stressed too much. These calls can be useful and helpful to the user as well as of great benefit to the sales representative. Every user will welcome the opportunity to be informed of latest developments which would benefit his plant or operations—the sales representative is a major source of such information.

The frequency of calls depends, to some degree, on new developments and the application of these developments to the individual user. Vendors will discover that the user welcomes calls when other phases too (service, maintenance, problems, etc.) are discussed.

6. Deliver equipment to the user on promised delivery dates.

Failure to keep delivery promises has caused more lost orders, more headaches, more downtime and more ulcers than any other single manufacturing factor. During any negotiation for the purchase of equipment there should exist a complete understanding of delivery and delivery problems between the manufacturer and the user. Often a delivery date is stated by the vendor and the user accepts it immediately as valid, even to the extent of setting up plant production schedules to coincide with the scheduled delivery date. Too often, that delivery date arrives, but the promised equipment does not.

Who is at fault? Obviously, a manufacturer does not make a delivery promise with an intention of breaking it. It is likely that he has been given separate delivery promises on his purchased parts only to find that as the deadline approaches he is not able to coincide all deliveries of purchased and manufactured parts.

As a rule, users realize that unforeseen problems, material shortages and other delays occur unexpectedly. It would be of great help, however, if the vendor would keep the user advised of delivery progress so that he can make necessary adjustments in scheduled production.

FLOW

THE USER

(Continued from page 70)

electronics and many other fields if they are to do their jobs satisfactorily. Manufacturers have available to users men who have been specially trained in maintenance of specific types of equipment. It is wise user who takes advantage of this service (which is often offered free).

Many user companies have cut maintenance costs considerably by allowing the manufacturer to set up a preventive maintenance program. All manufacturers of material handling equipment want their equipment to give the user all that was designed in it, both from the standpoint of service as well as longevity.

5. Give the vendor ample time to make delivery.

Such action offers the user an opportunity to give a service to the vendor. When a vendor submits his quotation to the user a delivery date is usually quoted, effective from the date the order is confirmed. Vendors realize that often many people and departments within the user plant need to be contacted before proposed equipment can be approved for purchase and, many times, in an effort to anticipate the delivery date, the vendor representative will take it upon himself to place the order with his plant without authorization from the user. It is realized that during the period elapsing before approval of the purchase of an item, delivery becomes a forgotten element. However, the vendor should be allowed the full delivery period, as indicated by his delivery date, from the date the order is actually placed.

6. Inform the representative as to the proper personnel to contact when calling.

The subject of material handling involves almost every operation in a modern plant and, along with it goes the personnel involved. Everyone feels that he should have a voice in the selection and application of such equipment. Normally, vendors contact the purchasing agent and assume they will then be referred to the proper personnel. This requires that the purchasing agent have a thorough knowledge of his plant and its departments. For example, it would be a waste of time if a vendor with a piece of equipment designed specifically for warehousing should be referred to the steel shed foremen. A broad comparison? . . . it has actually happened.

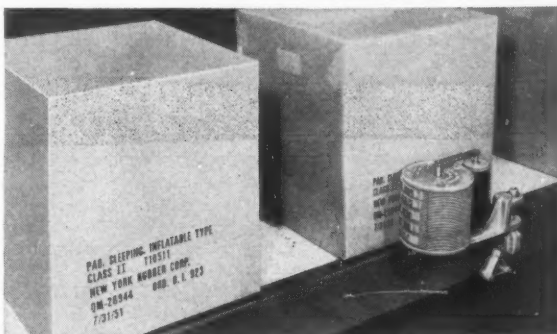
Many user plants have instituted a "line" which is to be followed when equipment is considered. At the beginning of this line is the purchasing agent, or the person designated to contact vendors. The line then continues to include the inter-plant departments usually involved in the purchase of material handling equipment, namely: Purchasing—Production (receiving, storage, manufacture, and shipping.)—Maintenance—Plant Engineering.

It is necessary for the user to designate an individual to represent all divisions of the plant, or the vendor should be allowed to contact each individually to present his equipment. The trend is for the plant to appoint one individual, in the form of a material handling engineer, and the results are great savings in productive time for the user as well as the vendor.

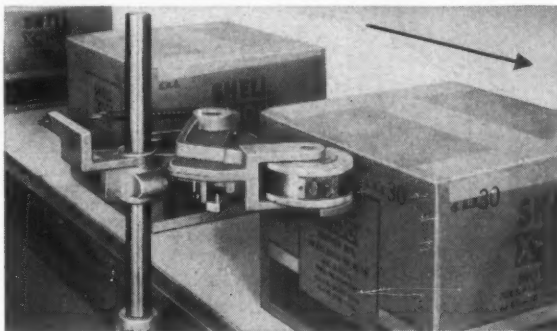
Low-cost marking attachments save thousands of \$ every year

Compact ROLACODER machines

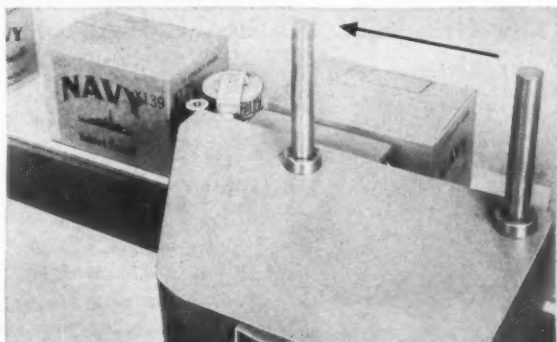
mark 1, 2 or 4 sides of cartons, cases, drums, bags, etc. automatically



Friction-operated ROLACODER "100" machine makes single, accurate "spot" imprint of brand names, varieties, code-dates, lot numbers on one side of containers as they travel on conveyors or through case-sealer. Prints from 1 to 5 lines of copy up to 12" long from easily interchangeable rubber type.



Twin-action ROLACODER "500" marker marks codes and lot numbers on front and one side panel of cases simultaneously . . . in a single pass. Friction-operated . . . imprints legends containing up to 8 letters and figures.



Solenoid-activated twin-action ROLACODER "200" machine imprints codes and lot numbers on rear and one side panel (or rear only). When mounted in tandem with ROLACODER "500" machine, cases can be marked on all 4 sides simultaneously without requiring that they be turned.

Write for new Bulletin "ROL-2"

Gottsch

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Dept. D, Hillside 5, N. J.

Automatic
CODING, MARKING,
IMPRINTING
MACHINES

In Canada: RICHARDSON AGENCIES, LTD., Toronto & Montreal
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MARKING MADE EASY IN YOUR SHIPPING ROOM!

The ADVANCED Flo-Master Felt Tip Marker, with its interchangeable felt tips, makes marking on boxes, bags, cartons and crates a quick, simple job. The special spring valve permits finger-tip control of the ink flow. Instant-drying, waterproof, non-smudging Flo-master Inks help safeguard your shipments—addresses will not be smeared in transit. For heavy-duty marking use the KING SIZE Flo-master with its larger felt tips and bigger ink supply. **The ADVANCED FLO-MASTER is new!** In style and size like the finest fountain pen, the **ADVANCED FLO-MASTER** does everything the **Original Flo-master** does — uses the same inks — contains the same features — yet holds $\frac{1}{2}$ more ink. It is the ultimate in a felt tip pen.

Contact your supplier or write direct to: Cushman & Denison Mfg. Co., Dept. 1, 625 8th Ave., N. Y. 18, N. Y.

**ADVANCED
Flo-master
FELT TIP MARKER**

Visit us at the N.A.P.A. Inform-A-Show

STENCILS

ARE NOW "6 WAYS" EASIER TO CUT
ON THE NEW DIAGRAPH-BRADLEY



SPEEDMODEL STENCIL CUTTING MACHINE

Years ahead engineering features such as these — light-weight aluminum alloy castings in all spinning parts, shear action punches, pin point feed mechanism, and wide margin guide lines plus contour designing of the flat top head and feed mechanism housing make the Diagraph-Bradley SPEED MODEL, your most economical and efficient buy in a stencil-cutting machine today.

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P. O. BOX 269 HERRIN, ILLINOIS
DISTRIBUTORS IN ALL PRINCIPAL CITIES

D.B.

Circle 50 on Reader Service Card for more information
134

LP GAS INDUSTRIAL TRUCKS

(Continued from page 79)

quently, assembly plants at San Jose, Calif., Mahwah, N. J., and Louisville, Ky., are completely equipped with propane powered trucks. Propane is also forecast for new plants now underway. In addition, numerous trucks have been converted to propane.

Electric and Gasoline Trucks Still Required

The initiation of propane does not mean that other power types are out of the picture. Ford standards now specify the procurement of gasoline, propane, or battery-electric. Gasoline is specified in those areas where it is not economical to use LPG. Electric trucks are specified for those areas where electric fleets are presently operated, and in hazardous areas where fire regulations dictate the use of battery-powered equipment.

Special Tank Guard Developed

Ford engineers have decided on a removable rather than a fixed tank on the trucks because of the availability of propane in bulk quantities at most Ford operations. It is much easier to bring several tanks to a location in a single load than it is to transport each truck to the filling station for fueling. This was considered a prime advantage of propane over gasoline.

They have developed a tank guard for the propane tank on the truck. Their safety people felt that, because the propane tank had to be externally located, it could be subjected to damage from falling objects. The tank guard would protect against this. Also, it was felt the tank guard would protect the operator in case of tank or component part failure. The tank guard is designed so that gas will not spray on the operator. The guard surrounds the tank. It forms a saddle on the bottom and a guard on the top. Leakage is directed away from the driver. They have never known a tank failure, but the guard is an additional precautionary feature which the Safety Department demanded. The guard has been given Underwriters Laboratory approval and is now being specified as standard on all LPG trucks.

The tank on these trucks is I.C.C. approved. It is a pressure type tank. Similar vessels on highway equipment have gone through serious mishaps with no damage to the tank, which is constructed of Bureau of Explosives approved steel. The working pressure is 240 PSI, the test pressure 480 PSI. It is approximately 14-gage.

Ford has had to be concerned with the cost of LPG fuels. It differs in various parts of the country because of transportation and storage problems. It varies from three cents per gallon in the Texas Area to forty-five cents per gallon in some areas on the Eastern Seaboard. The cost of LP-Gas was prohibitive in the Edgewater, New Jersey, area, but a relatively short distance from there, in the new plant at Mahwah, the cost was low enough to permit the use of LPG. The

FLOW

difference in the cost between these communities was due to a lack of bulk storage facilities at Edgewater.

Bulk facilities are very important in the consideration of LPG. When the Ypsilanti Plant installed LPG trucks, they initially purchased the gas in small tanks, ready for installation on the truck. Purchase in small quantities defeated a substantial portion of anticipated savings. They had an 18,000 gallon storage tank for LPG—which they were using for other industrial purposes—but, at the time, they had no way of filling small tanks. They came up with the necessary cost studies and, as a result, built a station equipped with pump, scale, control valve, and filling facilities. This enabled them to purchase their own tanks and fill them at their own installation. This cut the price of LPG in half.

Ford is encouraging all its plants which are not equipped with bulk facilities to make thorough cost analyses, and to install such facilities where warranted. The new hardware plant in Sandusky, Ohio, is installing bulk facilities strictly for use in industrial trucks. Incidentally, the fork trucks and tow tractors specified for this plant will be 100 percent LPG powered.

Ford material handling engineers are working out problems in the handling, transporting, and installing of tanks. The original tanks they employed were of eight-gallon capacity. This was found to be adequate for 4000 pound trucks. However, a ten-gallon capacity tank was required for 6000 pound trucks, and heavy-duty tow tractors required the installation of two eight-gallon tanks. They are projecting the use of LPG on steel handling ram trucks, ranging in capacity from 16,000 to 30,000 pounds. Two ten-gallon tanks will be required for each shift on these trucks.

Automatic Handling in Tank Filling

The handling of these tanks has been a problem, but they expect to have a standard method of handling tanks established in very quick time. Under development is a handling system in which a small, inclined gravity roll conveyor will be installed at the bulk loading facility. The attendant will merely place a tank on the conveyor, and it will roll to the platform scale bed, ready for filling. The attendant will attach the hose coupling, the pump will automatically fill the tank, and the scale beam control valve will automatically shut off when the tank is filled. He will remove the coupling, push the tank onto the gravity roll conveyor which will move it to the loading area. In this area, tubular racks (illustrated) will be positioned.

Ford's standard tubular racks will be used for the substantial portion of interplant shipments, with dunnage peculiar to the operation. The dunnage will be removable and consist of two inclined tracks which will provide gravity loading and unloading.

A device will be provided at the loading station to horizontally position the tanks and allow gravity rolling into a declining track on the rack. There will be an interchange station at the opposite end of the rack. The rack will be removed by fork truck and placed on Ford gravity roll highway trailers, when applicable,

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101 MONEY SAVING IDEAS!

The June issue of FLOW
will feature exciting material
handling case histories covering
all types of industrial
and commercial operations . . .

. . . our editors and writers are ranging over the country, working with users and manufacturers of material handling and packaging equipment, to bring this collection of "Money Saving Ideas" to readers.

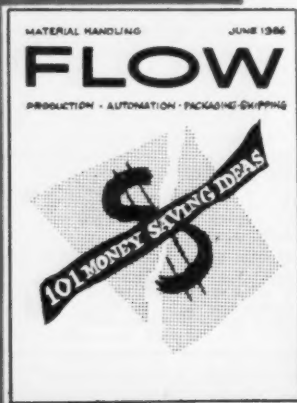
Other editorial features in the June issue will tie in with the Material Handling Institute's Exposition of 1956 to be held in Cleveland June 5-8, 1956.*

Readers who plan to attend the Exposition can use the June issue as a guide to the location of all exhibits and technical programs.

The thousands of readers who cannot attend the Exposition will be able to read about the many new developments presented there . . . as well as the valuable "Money Saving Ideas".

Very truly yours,

Irving B. Hexter
FLOW Magazine
Irving B. Hexter
Publisher



* PS. We will mail the June issue of FLOW about May 25th to make sure readers receive their copies before Exposition time.

L-P GAS TRUCKS

Continued

or on a standard highway flat bed trailer for conveyance to the using location. For short distance moves, a fork truck, or tow tractor with dolly will be all that is required for carrying the racks. At the receiving location, the racks will be carried by dolly to the use point. The fork truck operator will merely back his truck up to the rack, and, through the use of an articulating device, will roll the empty tank onto the interchange platform, and the platform will convey the empty tank to the lower declining track. Then, he will release a locking mechanism on the rack to permit the rolling of the loaded tank on to the articulating platform for installation in the trucks.

In plants still using gasoline, trucks come from all areas of the plant and converge at a single gas station with considerable lost time. Ford Fire Control people have said it will be feasible to convey this special rack into the various departments and service trucks in their working areas. This will eliminate traveling time to and from the gas station. It is believed there will be a saving of at least 50 percent of the time presently expended in fueling industrial trucks.

Quick-Detaching, Self-Sealing Coupling

Material handling engineers at Ford have also licked the problem encountered with a wrench-type coupling for attaching the hose to the tank. This coupling necessitated a repairman with a wrench to change tanks. Engineers proposed the use of a quick-detachable, self-sealing coupling. After considerable testing, this coupling was approved by the Underwriters Laboratory. It allows the operator to disconnect the hose by hand, and, during the disconnect process, both hose and tank are automatically sealed.

Summary:

Considering the use of LPG on industrial trucks and tractors on an overall basis, Ford engineers

have listed the following important factors involved in estimating the potential of this type of fuel:

1. Lower fuel cost per operating hour in relation to tonnage handled, depending upon the cost of LPG at the particular area: (LPG fuel varies in price from \$.03 per gallon to \$.45 per gallon in different parts of the country.)

2. Double engine life: Based upon the check of the engine installed on the first LPG powered truck, it is believed that the claims made, by major users of LPG, rel-

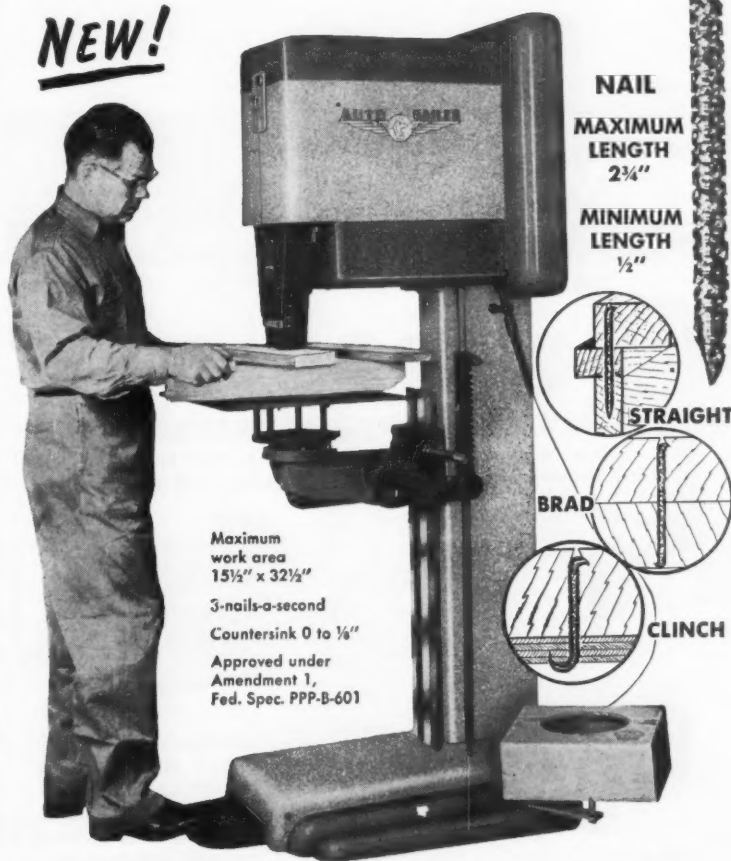
ative to double engine life are accurate.

In general, a clean running engine, both in the combustion chamber and the crankcase results from the use of LPG. Some of the factors underlying this achievement are:

- No oil dilution from fuel.
- No cylinder wall washing.
- No appreciable carbon deposits in combustion chamber.
- No metallic deposits in combustion chamber.

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15½" x 32½"
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Power-Dock

THE *Best* DOCK-LEVELER YET! HERE'S WHY...

* ELECTRO-MECHANICAL!

Not hydraulic or counter-weighted; all-weather operation; maintenance free!

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Reduces possibility of accidents; "floats" automatically with truck bed; locks if truck should accidentally pull away; holds 10 tons any position!

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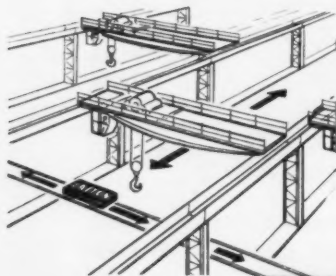
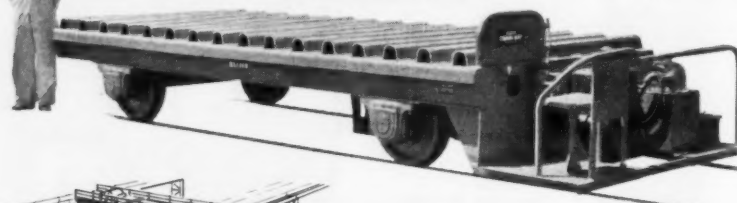
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GASOLINE-HYDRAULIC TRANSFER CAR

to supplement overhead crane service in multiple bay plants, and for handling between plant buildings or storage and shipping areas.



CUSTOM-BUILT to meet speed and capacity requirements. Special superstructures can be designed for specialized or mechanized handling. The car illustrated, built for steel warehouse work, provides capacity of 25 tons plus 50% for impact loading, and two-way speed of 50 feet per minute. Other capacities available.

A-1048

CROSS-BAY cars may also be powered by electric motor, electro-fluid drive, gasoline-electric drive, or storage battery. Capacities from 5 to 500 tons. Custom-built.

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L-P GAS TRUCKS

Continued

- No spark plug fouling.
- No gum or sludge formation in crankcase.

3. Less preventive maintenance expenditures. This is due to extended spark plug life, longer lube oil life, and the curtailment of frequent fuel and exhaust system cleaning and adjusting.

4. Lower carbon monoxide content in exhaust gases: This is reflected by laboratory and field analyses of exhaust gases under engine operating conditions.

5. Greater combustion efficiency in low speed ranges: Industrial trucks normally operate between 400 and 1800 R.P.M. LPG is a very excellent fuel within this range of operation. In industrial truck operations at Ford there is plenty of starting, stopping, and idling. LPG readily lends itself to this kind of a work schedule because of its combustion efficiency in low speed ranges.

Bulk Shipping & Storage

(Continued from page 112)

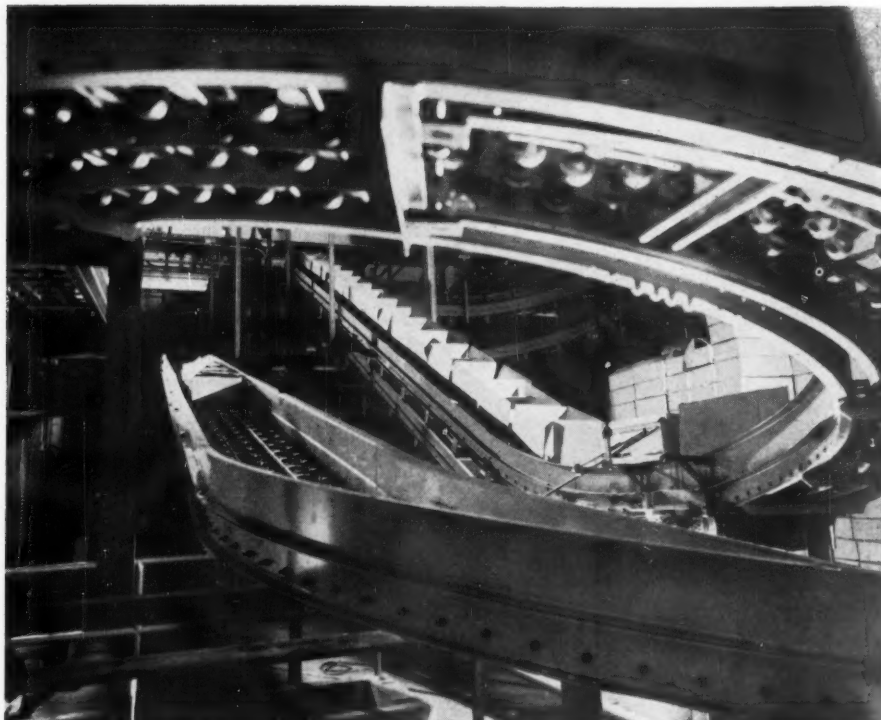
placed in Burris & Hatch's office files. The customer is thus safeguarded against loss and any claims arising therefrom are eliminated.

Upon arrival at the warehouse, the bulk container is removed from the trailer and taken to the warehouse by a 4000-pound capacity fork truck. There, it is stored or spotted in an area where it will await the arrival of an over-the-road van.

With the new system, it is now possible to schedule positive pick-up dates without necessitating an additional two handlings in the event that the over-the-road van does not arrive as scheduled. Storage in the warehouse is more compact than before because the usual eight-foot aisle has been eliminated and the containers may be stacked two or three-high with greatly increased revenue per square foot of warehouse space. There is no danger of damage due to over-stacking.

Courtesy The Hyster Co.

FMC Power and Gravity
Conveyor in action in a
large warehouse system



Versatile—
Flexible

FMC

power conveyor

WORK-HORSE CONSTRUCTION...

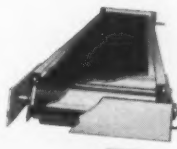
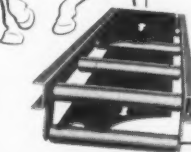
You can specify and apply FMC power conveyor and accessories with the confidence that their performance will easily match or exceed your most rigid requirements. In design, this equipment is modern; in manufacture, it's mechanically correct; on the job, it's efficient and long-lived.

Yes, FMC Power Conveyor will solve your materials handling problems at a saving. Used in conjunction with the perfected automation of the 3 units shown at the right, FMC power conveyor substitutes *push-button*, automatic operation for the *uncertainties and drudgery* of case-manhandling. Request the 24-page Bulletin that describes versatile FMC power conveyors and accessories. Clip and mail the coupon below today.



plus ACCESSORIES
FOR COMPLETE
POWER SYSTEMS

including intersections, diverters, box stops, turns. FMC also manufactures a complete line of gravity conveyor and accessories, quality companions of FMC power conveyor.



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Whether the application is routine or highly specialized, you're sure to find a Hamilton truck that's exactly right for the job! Ranging in load capacity up to 10,000 lbs. Hamilton trucks are available in hundreds of styles and sizes—platform trucks, two-wheeled hand trucks, box trucks, stake trucks, shelf trucks, wagon trucks, lift truck systems, skid platforms, dollies, and many others. Tell us your requirements—we'll supply Hamilton trucks that are job engineered and job-built to meet them!

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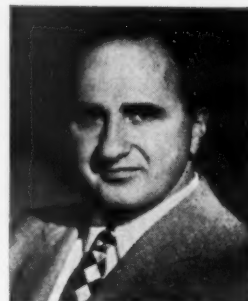
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140

MEN IN THE NEWS

(Continued from page 50)

Harnischfeger Corporation has appointed **Charles F. Parthum** as advertising and sales promotion manager. Mr. Parthum was formerly with the Buchen Company of Chicago. Prior to that, he was with Mac Manus, John & Adams of Detroit and New York. He is a graduate of the University of Michigan and the University of Rochester.



C. F. Parthum

At Conveyor Systems, Inc. . . . **Robert M. Pfaff** has been elected vice president and assistant sales manager of the company, as reported by **Marvin H. Coleman**, president.

At C & D Batteries, Inc. . . . **Henry E. Jensen** was appointed to the newly-created position of vice president in charge of engineering and marketing, according to **F. S. Carlile**, vice president and treasurer. Jensen, vice president in charge of engineering since 1953, now is also responsible for marketing. In this capacity, he succeeds **Samuel W. Gibb**, vice president in charge of sales, who is taking an indefinite leave of absence.



Henry E. Jensen

At Motorola Inc. . . . Naming of **John T. Hickey** as general manager, **Dr. Virgil E. Bottom** as director of research and development, and **Edmund G. Shower** as product production manager of the new Phoenix, Arizona facility was made known by Vice President **Daniel E. Noble**, Communications and Electronics Division.

At Robertshaw-Fulton Controls Co. . . . **Rear Admiral Harry B. Temple**, UNS (Ret.) was named assistant vice president. He will headquarter in Washington, D. C., where his prime responsibilities will center around research and development. He will also be concerned with the company's expanding interests in atomic energy, according to President **John A. Robertshaw**.

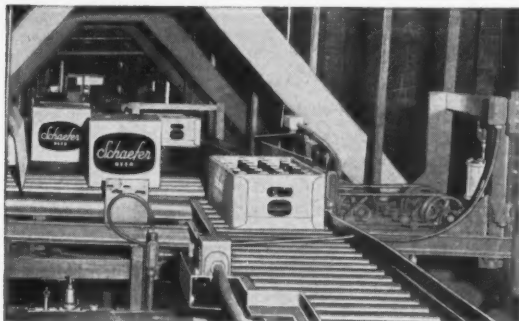
FLOW



A Lamson roller gravity, live roll and belt conveying system automatically sorts kegs and cartons from boxes at Russell, Burdsail & Ward Bolt and Nut Co., Port Chester, N. Y. Thanks to the Lamson system, shipping department output now keeps pace with a bigger increase in volume of orders.



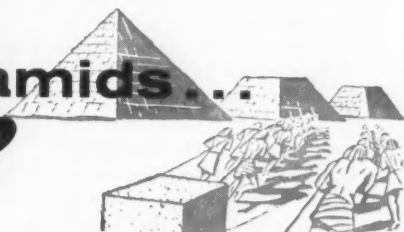
Order filling capacity has increased 30% since the Philadelphia Wholesale Drug Co. installed its Lamson integrated belt, gravity and live roll conveying system.



Two different sizes of cases are automatically sorted by this Lamson unit at The F & M Schaefer Brewing Co., Brooklyn, N. Y. As cases are conveyed to the sorting switch, low cases pass under and through. High cases strike an arm which raises a series of V-belts, transferring the cases laterally to the parallel accumulator line at the left.

Do you fill orders like Pharaohs built the pyramids...

BY HAND?



Pushing, pulling and hauling your products is a needless waste of time and energy and money in this mechanized age. That's why so many plants and warehouses today are *Lamsonized* — because Lamson integrated conveying systems "float" merchandise from production to storage to shipping docks . . . quickly, efficiently, economically. Handling time is frequently cut 20%. Lamson will do as much or more for you.

Lamson offers the most complete line of heavy- and light-duty belt, gravity and live roll conveyors; overhead chain, and heavy-duty re-

ciprocating vertical conveyors; continuous combing vertical conveyors and special conveyors, and automatic pallet loaders. Our seventy-six years' experience in the design and manufacture of conveying systems has been proved in hundreds of *large* and *small* installations . . . in every industry.

Why not talk over your conveying problems with a Lamson engineer? He'll show you ways to cut costs and meet production schedules by eliminating bottlenecks, and fill every order in an absolute minimum of time.

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☐ "Conveyor Facts"

☐ 28-page Roller Gravity Bulletin

2445



AUTOMATIC ROUTING AND DISPATCHING

(Continued from page 110)

sealer which will automatically adjust for height and width, and seal top and bottom. This case sealer will be programmed by a control device so that it picks up a maximum number of each size before automatically adjusting to a new size.

Automatic Control

The employee who operates the control equipment for the sealer will also operate a push button console which will provide for the automatic routing of sealed cartons into any one of twelve distribution racks leading to carriers. The control equipment will memorize selections by carrier destination, then transmit the information to a deflector mechanism at the carrier racks so that when the correct carton arrives at its predetermined rack, allocated to a particular carrier, it will be automatically discharged into the rack, to be held in "live" storage until the carrier is available to accept the shipment.

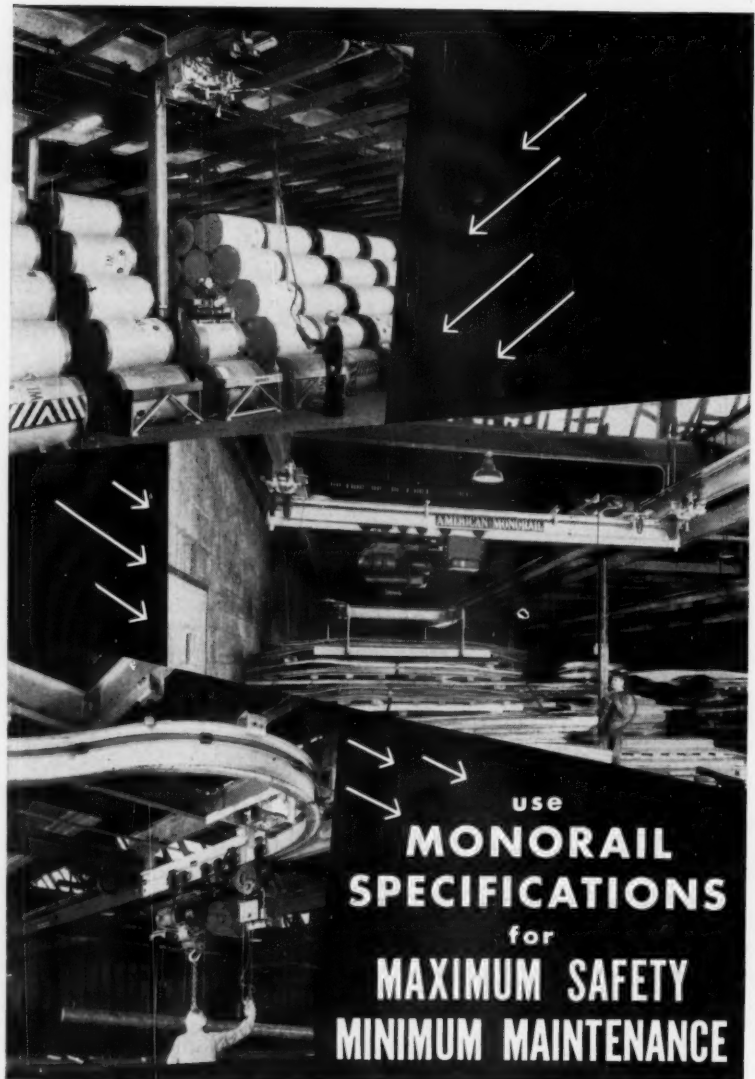
This entirely new concept of dispatching is made possible through control equipment which can memorize the separate destinations of an unlimited number of units and at the correct time activate the mechanical equipment necessary to route and direct each unit into its appropriate channel.

One-Man Operation

Note that one operator will be able to direct the sealing of car-



"Well rush my belting—the circus leaves Friday"



By following the guide prepared by members of the MonoRail Manufacturers Association when purchasing materials handling equipment, you are assured of getting maximum safety and minimum maintenance and still satisfy your operating requirements.

The guide represents the efforts of the combined experience of all the engineers of the association members. The specification guide has just been published.

A copy of these specifications will be forwarded on request. Write also for a copy of the American MonoRail Bulletin C-1 describing hundreds of successful solutions to handling problems.



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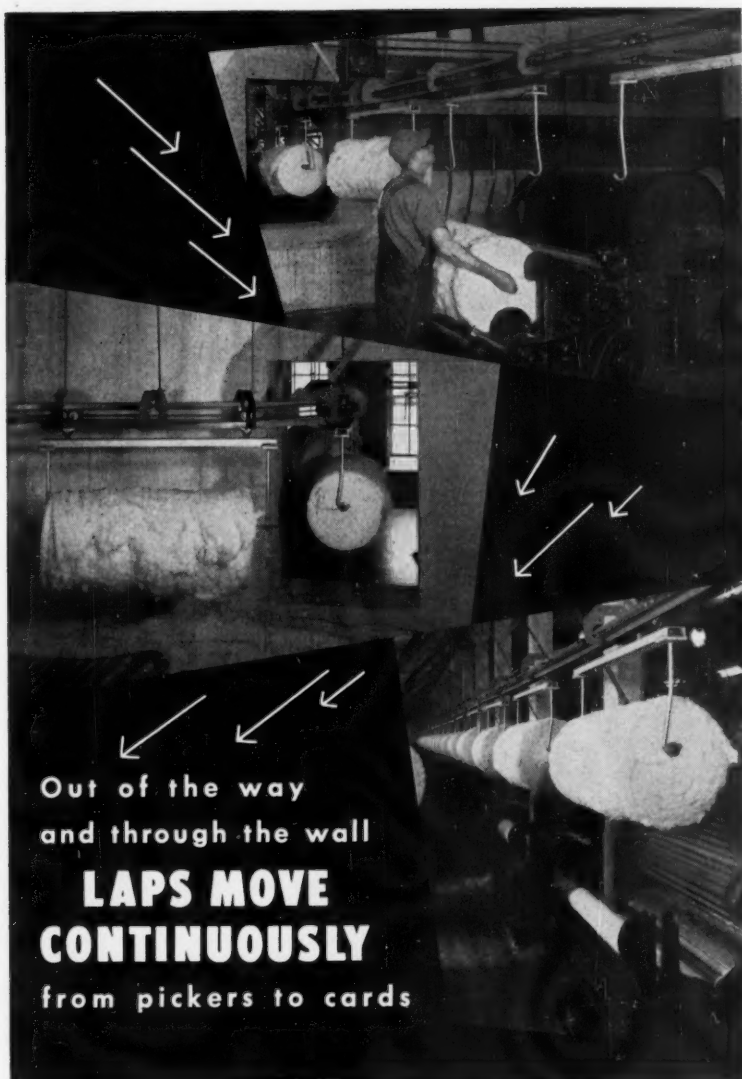
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HANDLING
EQUIPMENT

MonoRail COMPANY

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Out of the way
and through the wall
**LAPS MOVE
CONTINUOUSLY**
from pickers to cards

Landahl Chainless Conveyors keep out of the way and go right through the wall in this mill's most congested areas. Laps are free from damage in transit.

The open type construction of the Landahl Chainless Conveyor is another cost cutting feature. It makes cleaning easy — eliminates excessive accumulation of lint.

Remember that Landahl Conveyors have no chain to wear, no cable to sag, no sprockets needed. Landahl offers short radius turns, low cost maintenance, low initial cost, ball and socket universal joints, and caterpillar drive. Write today for Bulletin LS-1.

Photos: Courtesy Valdese Mills, Inc., Valdese, North Carolina.



The LANDAHL CONVEYOR CO., 13129 Athens Ave., Cleveland 7, Ohio

A SUBSIDIARY OF THE AMERICAN MONORAIL COMPANY

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MAY, 1956

tons by size, the sorting of cartons by route, and the dispatching direct to carriers. All manual handling operations will be eliminated as the containers will be moving on conveyors at all times during the operation. Note, too, that the operation will be intermittent rather than cycled and that there will be no predetermined pattern for the operation of the equipment.

The dispatching system will have twelve sorts to carriers and, therefore, twelve consolidation racks. Racks will be allocated daily or more frequently, if necessary, as required by the size of shipments destined for the various carriers. Whatever goods are available to any one carrier will be in the racks assigned to that carrier and there will be no waiting for shipments to be assembled or brought down. If the rack for Railway Express, for example, is full, the sorting gate for that rack will close and the cartons will automatically feed into a second rack, also assigned to Railway Express. Since not all carriers will receive full trailer loads, they may elect to pick up shipments in their assigned rack at various times during the day or may be scheduled to pick up at a given time each day, at which time they can quickly take everything that is ready for them. All shipments will be "live," ready for loading as soon as the truck arrives.

Positive Control

This whole concept involves positive acting circuitry and mechanical equipment needed for a production operation, rugged enough to handle the problem under everyday factory or warehouse conditions. The size, weight or shape of the carton has no significance. If a carton is taken off, is turned sideways, etc., the equipment continues to operate and there is no transfer of information from one container to the next. Each unit has a separate destination and is separately controlled during its entire movement through the system.

Order-Picking in Reverse

In the chain store installation described, the goods are destined for common carriers, freight con-

**STERLINGS are my
FIRST Choice because
they LAST!**



(Above) Model D31½S Maximum Capacity 3½ cu. ft. 16 gauge tray, all welded, no rivets, double lapped at corners. Steel channel legs. V-shaped front braces and brace support.

For STAMINA, long-lasting ruggedness, you can't beat Sterling Wheelbarrows. Users say they seem to last "forever". Work them hard, overtime, in toughest service . . . you'll agree Sterlings survive hard punishment . . . again proving . . .

IT PAYS TO BUY THE BEST.



(Right) Model C5W Maximum Capacity 5 cu. ft. 16 gauge tray, all welded, no rivets, double lapped at corners. Heavy-duty malleable wheel guard.

STERLING WHEELBARROW CO., Milwaukee 14, Wis.

**Sterling
WHEELBARROWS**



Look for this Mark of
STERLING Quality

A 5878-1/4-R

SERIES HB —

The High Quality Heavy Duty
EUCLID HOISTS

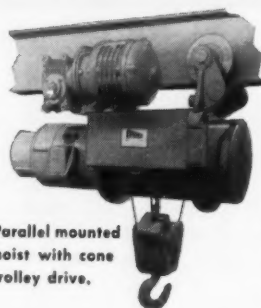
These hoists are highly efficient and strictly modern in every detail with oversize anti-friction bearings and heat treated steel parts in combination with a welded frame.

The planetary gearing and mechanical load brake are mounted in oil tight housings. The hoist gearing is assembled in the hoist drum.

This design produces an unusually compact, rugged and accessible hoist readily adapted to various installations and types of control.



Low headroom
cross-mounted
plain trolley
hoist.



Parallel mounted
hoist with cone
trolley drive.

Write for the HB Hoist
literature illustrating and
describing the many fea-
tures.

THE EUCLID CRANE & HOIST COMPANY
1362 CHARDON ROAD, CLEVELAND, OHIO



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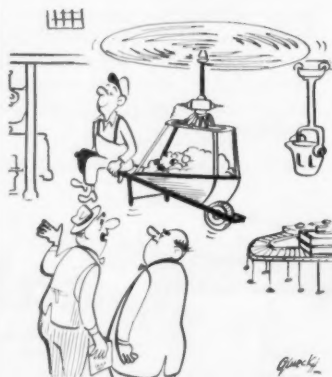
**AUTOMATIC ROUTING
AND DISPATCHING**

Continued

solidators, etc. If, however, shipments had to be dispatched to the trucks in the opposite order of delivery on routes, so that last into the truck would be first out at the ultimate destination, this could be achieved by picking the orders in the opposite sequence to the delivery routing. This concept would make automatic dispatching useful for wholesalers and other direct-to-customer shippers in the food, drug, liquor and related lines. Many orders could be picked at once because all routes could be worked simultaneously.

**Completely
Automatic Sorting**

Underlying this advance in distribution is the ability to sort completely automatically, for if sorting can be performed automatically then hundreds of applications are possible. Thus, it is possible to sort out mixed receivables by destination at the receiving platform so that the merchandise can be unloaded directly from trucks onto conveyors and instantly dispatched to any number of different stockrooms at any distance from the platform. When it arrives at its destination, the right merchandise will get off at the right storage area. There is no human intervention beyond the receiving platform.



"SURE HE ONLY DEVELOPED IT BECAUSE
HE'S A LAZY BUNT — BUT WE COULD ALWAYS
USE SUCH BUNTS..."



MAGIC EYE

(Photoelectric). Actuates door when beam is broken.

STANLEY



PUSH PLATES

Wall-mounted push or kick plates.
Adaptable to many industrial locations.



PULL CORD

Door is operated only with pull of overhead hand cord.



Wherever
temperature or
humidity changes
cost dough

Magic Door Controls are necessary

It's dough — literally — that is saved at the Drake Bakeries, Inc. plant in Brooklyn, N. Y. by the use of a Stanley Photoelectric Door Control between the dough-mix and fermentation rooms.

The Stanley Magic Eye Control (photoelectric) opens the doors automatically as the worker pushing dough container approaches, keeps them open only the minimum of time required to let the traffic pass through, then closes them promptly. Any change in temperature or humidity that could spoil the dough is prevented.

Keeping temperatures and humidity constant is only one Magic Door Control accomplishment. Time is saved by speeding traffic flow . . . money is saved by eliminating maintenance costs due to door damage.

Call in your nearby Magic Door Representative (listed in the yellow pages of the telephone directory). Write for descriptive literature.

**MAGIC DOOR DIVISION
THE STANLEY WORKS
DEPT. E, 592 LAKE STREET
New Britain, Connecticut**

STANLEY

Representatives
In Principal
Cities



STANLEY TOOLS • STANLEY HARDWARE • STANLEY ELECTRIC TOOLS • STANLEY STEEL STRAPPING • STANLEY STEEL

Circle No. 169 on Reader Service Card for more information

MAY, 1956

145

SALES FIELD

(Continued from page 123)

Establishment of two additional representatives in Indiana and Illinois was made known by **The Yale & Towne Manufacturing Company**. The new outlets are: **Kimball Industrial Sales Corporation**, 730 W. Indiana Avenue, South Bend, Indiana; and **H. W. Carpenter Company**, 4916 N. Sheridan, Peoria, Illinois.

Container sales representative for **Rheem Manufacturing Company** in the greater Cincinnati area is **Harry J. Patterson**. A veteran with more than 30 years experience in the packaging industry, Patterson was previously associated with **Inland Steel Container Company**.

Arrangements have been completed by **The Syntron Company** and **The Young Machinery Company** for the sale of Young's Transvaire pneu-

matic conveying systems by Syntron sales representatives.

Keith G. Splude has been named divisional sales manager of the Brake Division of **Stearns Magnetic, Inc.**

L. P. Metesser, west coast representative of **The Cleveland Vibrator Company**, has increased his franchise to include the states of Idaho, Utah and Arizona. His office is located in San Francisco.

The Raymond Corporation has opened a new district sales office at 647 South Warren Street, Syracuse, New York. **DeWitt W. Sprout**, formerly assistant sales manager of the company's electric truck division, heads the new facility.

Harry A. Ronan, who joined **Motorola** in 1949 as a radio communications engineer, has been named New England regional manager of the **Communications & Electronics Division**. He will headquarter at 540 Main Street, Winchester, Massachusetts.

The Industrial Service Company, Atlanta, Georgia, has been appointed a new selective distributor by **The Cambridge Wire Cloth Company** for its line of slings.

Donald J. Beach, who has been traveling the mid-western states for five years, will cover Michigan, Indiana and western Kentucky for **Flexible Steel Lacing Company**.

Lewis-Shepard Products, Inc. has appointed **Chesley E. Grant** as exclusive representative in the state of Maine. Grant is well experienced with material handling equipment and methods, having been associated with **Goodall-Sanford** for the past 30 years.



Its One Objective: To produce new product-handling savings—for you!

WILLIAM HENKE, able veteran of 20 years with our engineering staff, has helped to engineer every type of conveying system for every type of industry.

JIM RAKEL, one of our brilliant young "Co-op" engineers from University of Cincinnati, wasn't born in 1901—when A-F built the first conveyor and pioneered the automatic assembly line.

But daily, since that year, predecessors of our young Rakel have conferred with men like Henke—to fuse daring new efficiencies with sound judgment—to make substantial economies in the in-plant movement of parts . . . products . . . cartons . . . cases . . . barrels.

And, because A-F is unique among all manufacturers in being able to design, build and install a plant-wide completely coordinated cleaning, processing and conveying system—as well as offer low cost, but efficient, pre-engineered sections of roller, wheel, belt and trolley conveyors—all based on 55 years of experience—you can be sure that whether your plant is gearing for complete automation or is taking the first steps toward a single conveyor system, our company can help solve your handling problems.



Write us—today.



A-F ENGINEERED CONVEYING SYSTEMS

Also Pre-Engineered Conveyors—Wheel, Trolley, Roller, Belt
Metal Cleaning and Processing Machines

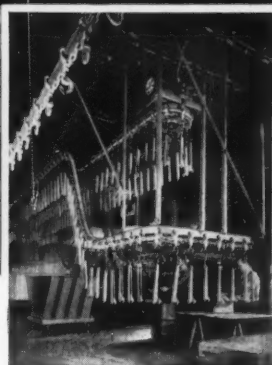
THE ALVEY-FERGUSON CO., 435 Disney Street, CINCINNATI 9, OHIO and Azusa, Cal.
Circle No. 7 on Reader Service Card for more information



Open design makes all parts readily accessible for inspection and maintenance, eliminates hidden dirt-catching enclosures.



Note design similarity between lighter-duty Trol-e-veyor (left) and heavy-duty version (above). Trolleys, chain, track, even sprockets follow proven-efficient engineering precedents—assure smooth operation and minimum maintenance.



Automatic dipping operation eliminated troublesome backlog in small parts painting. Here, conveyor speed is timed so that parts are dry at end of the line. One operator handles whole operation. Note Trol-e-veyor's steep inclines, tight horizontal turns and vertical curves, minimum superstructure.

New low-cost TROL-E-VEYOR

gives you all the advantages of proven heavy-duty designs!

Now, at low cost, your smaller manufacturing and processing operations can have full benefit of overhead handling and storage. With new A-F Trol-e-veyor, you can save valuable floor space, reduce handling time, make whole operations more efficient.

Trol-e-veyor gives you all the advantages of proven heavy-duty designs, at a new low price that will likely fit within your smaller operations budget. Yet you can expect the same low maintenance, smooth operation, quality engineering and workmanship of far more expensive conveyor systems.

Years of A-F engineering experience, in all types of conveying, back this new lighter-duty design.

Because of Trol-e-veyor's design simplicity, components are immediately available from stock, installation is quick and low-cost. Optional 8", 12", 16" or 20" trolley spacing assures fitting your job correctly at minimum cost. Load factors are more than ample. Loads up to 160 lbs. can be handled easily without excessive wear.

Get complete details on Trol-e-veyor now. Call your A-F Distributor or write today for our new TROL-E-VEYOR BULLETIN GD-S.



A-F founded the package conveyor business in 1901

A-F Conveyors

Custom Engineered Conveyor Systems

Packaged Conveyors—Wheel, Roller, Belt, Trolley

Pan and Rack Washers

Metal Cleaning and Processing Equipment

Circle No. 45 On Reader Service Card for more information

SALES FIELD

Continued

Krider Equipment Company, Fargo, North Dakota, has been named as a distributor by **Baldwin-Lima-Hamilton Corporation**, Construction Equipment Division. The distributorship covers the entire state of North Dakota, plus the counties of Clay, Norman and Wilken in Minnesota.

A new sales and service office has been opened in Phoenix, Arizona, by **Lewis-Shepard Products, Inc.** Located at 18 E. Lincoln Street, the new facility is headed by **L. J. Clarke**, who also represents the manufacturer in Tucson. **Melvin A. Kimmel** is branch manager.

Republic Steel Corporation recently named **Bode-Finn Company**, Cincinnati, and **Cass**

Industries, Inc., Detroit, to handle the sale and distribution of products of the Pressed Steel Division.

Promotion of **L. L. Shaffer** to branch manager in charge of the Cincinnati warehouse and office of **J. N. Fauver Company, Inc.** was announced by Vice President **John W. Fauver**.

COMPACT

POWERFUL

DURABLE



QUIET

TULSA® POWER TAKE-OFFS

A complete line of low speed, medium speed, high speed, reversible, and three series of two speeds forward, reversible models for every truck requirement.

FEATURING: strong, light-weight housings; forged, heat-treated gears; heat-treated shifter yokes; anti-friction bearings throughout, shaved gear teeth; double-lip shifter shaft seals, extremely low prices, nationwide distribution and service.

**SEE YOUR NEAREST TULSA DISTRIBUTOR
FOR COMPLETE INFORMATION AND PRICES**

Tulsa Winch
TULSA, OKLAHOMA
DIVISION OF
VICKERS Inc.

Circle No. 180 on Reader Service Card for more information

Aeroquip Corporation has opened a new warehouse in Dallas, Texas, which will serve the south and southwest area. **Clyde Stratton**, who has been with the company since 1953, heads the new facility.

Former president of Main Belting Company, **A. F. List**, has been named sales manager of **Russell Manufacturing Company's** Belting Division.

The **Fuller Company** has appointed **Jobe & Company**, 344 E. 33rd St., Baltimore, sales representative for the Baltimore, Washington and Richmond areas.

William Johansen has joined the factory sales staff of **Mercury Manufacturing Company**. In his new capacity he will supervise an extensive program planned for the sales agency division.

The newly created position of parts sales manager for **The Thew Shovel Company** has been filled by **Don L. Douglass**, who will be responsible for the sale and distribution of parts in this country and abroad. For the past several years, Douglass has served as a vice president of **American Steel Dredge Company**. He has been an active member of the Power Crane and Shovel Association.

The Diagraph-Bradley Industries, Inc., of Herrin, Ill., has designated the **J. E. Parker Company** as the authorized distributor of the complete line of Diagraph-Bradley shipping room supplies in North and South Carolina. **Julien E. Parker, Jr.** is manager and owner of the firm, which is located at 812 McKimman Rd., Fayetteville, N. C.

The Chas. Wm. Doepke Mfg. Company, Inc. has licensed **S. A. Remytole**, Brussels, Belgium, as exclusive European manufacturers and distributor of its NesTier line of parts handling equipment. The agreement with Remytole, a widely-known manufacturer of handling and storage equipment, covers the complete NesTier line.

Bernard Hoffman has been appointed Sales Manager of the **Seal-O-Matic Dispenser Corporation**, New York manufacturers of tape dispensers and moisteners. **Samuel Ortner**, President of the firm, made the appointment. Hoffman was formerly Director Dealer Sales with Dictograph Products, Inc.

A number of firms were recently named as Bucyrus-Erie distributors, by the **Bucyrus-Erie Company**, of South Milwaukee, Wis. **Contractors Supply**, Kansas City, Mo., now offers sales and parts service on excavators and cranes in Southwestern Missouri and Eastern Kansas; **Southern Gateway Company**, Cincinnati, Ohio, likewise serves Southwestern Ohio, the Southeastern tip of Indiana, and the Northern point of Kentucky; **Oelert Tractor & Equipment Company, Inc.**, of Salina, Kansas, covers the Northwest section of Kansas; and the **Midland Machinery Company**, Chillicothe, Mo., has been appointed distributor in the Northwestern section of Missouri and one Northern county of Kansas.

Lewis J. Langeness, General Sales Manager of the **Wilshire Power Sweeper Company**, announces the appointment of **R. "Dick" Chandler** of Cincinnati, Ohio, as Southern District Manager.

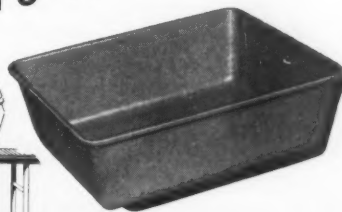
Francis W. Kayser has been named sales manager for **Hewitt-Robbins, Inc.** in the New England Area. He will be responsible for the sales of industrial rubber and machinery products, with headquarters at

69 Tenean St., Boston. He succeeds **A. A. Beaulieu**, who retired last February.

William J. Laise Company, Louisville, Ky., has been made exclusive industrial representatives for **Magline, Inc.**, to handle the firm's line of magnesium material handling equipment in Louisville, Lexington, Paducah, Owensboro and surrounding territories. **E. C. Jaggers** will be active in the new association.

diversification
IMPORTANT TO INDUSTRY

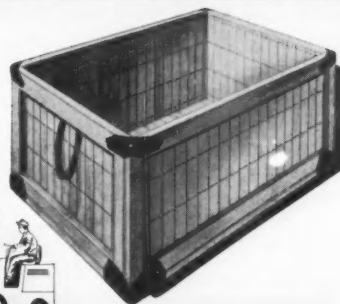
Versatile Lewis Containers handle many diversified products.



FIBER GLASS TOTE PANS

FIBER GLASS — Reinforced Polyester — no other material offers this unusual combination of strength and lightness so desirable to tote pan fabrication. Nesting and/or stacking styles available . . . all in variety of molded-in colors.

WOVEN WOOD-AND-WIRE — these popular containers can be summed up in three words — **BUILT FOR SERVICE!** Lewis offers a wide range of sizes and styles to meet your requirements.



WOVEN WOOD and WIRE BOXES

Whether it's stampings, castings, assemblies, or sub-assemblies...whether it's plastic, wood, rubber, metal, or textiles...whether it's light or heavy, small or bulky, you'll find Lewis Containers BEST. From Receiving to Shipping, Lewis Containers handle MORE pieces...FASTER, and with LESS LABOR! Write today for complete information.

Lewis
INDUSTRIAL
CONTAINERS

G. B. LEWIS COMPANY • 6055 Montgomery Street • Watertown, Wisconsin
See these products at Booth 422, MHI Exposition
Circle No. 103 on Reader Service Card for more information

SALES FIELD

Continued

Appointment of James H. Joyner as manager, Pacific Coast Sales, Quaker Pioneer Rubber Mills, was announced by G. A. Dauphinais. In his new position, he will supervise activities of the firm in ten western states. Joyner has been associated with Quaker Pioneer as manager, Los Angeles branch, since its acquisition by

H. K. Porter Company, Inc. in September, 1954. Prior to that time he managed Quaker's St. Louis branch.

Promotion of Leo M. Brown to manager of Gar Wood Industries, Inc.'s Chicago direct factory sales branch has been revealed. Brown joined Gar Wood in 1949, and was previously associated with the Galion AllSteel Body Co. and Hercules Steel Products Corp.

East-central Missouri and certain counties in Illinois comprise the sales territory recently assigned St. Louis Heil Equipment Company by The Heil Company. The distributor is located at 2002 Woodson Road, Overland, Missouri.

Equipment For Industry, 7512 Carnegie Avenue, Cleveland, has been appointed northern Ohio distributor for Rack Engineering Company.

The Automatic Switch Company has appointed the following new distributors: Frank A. Blesso, Inc., 286 Sheldon St., Hartford, Conn.; Joe E. Pearce and Associates, Albuquerque, New Mexico; Control Specialty Corporation, 1515 Spring Street, Houston, Texas; and Industrial Equipment Company of Houston, 6831 Navigation Blvd., Houston, Texas.

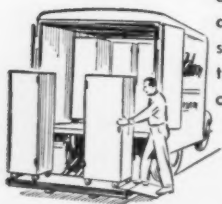
A newly formed organization headed by Carl E. Thorkelson and Garth Owen was appointed Chicago area representative by Republic Steel Corporation. The new company, located at 4754 West Washington Blvd., will specialize in containers and con-

Greer Hydraulics, Inc. has appointed Hydro-Air, Inc., 1315 S. Vandeventer Avenue, St. Louis, its distributor in Missouri, Nebraska, Kansas, western Iowa and southern Illinois.

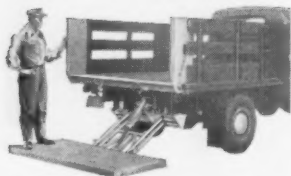
Promotion of George W. Keiser, Jr. to sales manager of the Syracuse Corrugated Box Division of Robert Gair Company, Inc. has been announced.

Here's trucking **AUTOMATION** that lets you combat High Cost Hauling

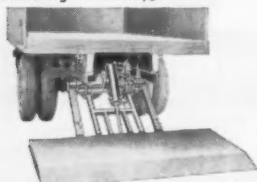
Cost saving way to handle bulky items such as bakery goods, candy, dynamite, glass, laundry, groceries, appliances, etc. Newly developed skids, pallets, tote boxes, metal containers, hampers, baskets, racks, etc. can be used for "bulk" loading.



ANTHONY LIFT GATES FOR 3/4 TON and Larger Trucks and Semi-Trailers



Model No. 144 handles loads up to 1000 lbs. Cuts loading and unloading time 50%.



Model No. 145 handles up to 2000 lbs. on 1 1/2-Ton and larger trucks and semi-trailers.

Model No. 146 handles up to 4000 lbs. on heavy trucks and semi-trailers.

If high freight rates and costly delivery services are cutting a swath out of your profit picture, here are five ways you can offset them.

1. Speed up deliveries.
2. Develop faster, easier ways of loading and unloading trucks.
3. Systematize handling of bulky, awkward, heavy shipments.
4. Prevent damage to goods, yet make it easier and safer for drivers to handle most shipments alone.
5. Help drivers contribute to the satisfaction of the receiver.

All of these advantages are yours when you install Lift Gates on your trucks. We will be glad to recommend the systems, the size and type of Gate best suited for your work.

Write, wire or call us today—no obligation. One of our representatives is nearby. Dept. 5605.



ANTHONY COMPANY
Streator, Illinois

Circle No. 18 on Reader Service Card for more information

Exclusive eastern factory agent for Getman Brothers is Ray T. Walter, former eastern sales manager of Wilshire Power Sweeper Company. In his new capacity, Walter will direct sales on the Atlantic seaboard of the entire Getman line.

Edmund L. Fitch has been appointed sales promotion manager of The Howe Scale Company, Inc. He previously served in sales and engineering capacities with manufacturers and distributors of industrial equipment in Dayton and Cincinnati.

Products of Clark Equipment Company's Industrial Truck Division will be sold and serviced in Philadelphia by Industrial Lift Truck Company, 2900 East Tioga Street. Officers of the new dealership are John I. Somers, president; Clarence A. Warden, Jr., vice president; and Paul E. Kelly, treasurer.

David H. Cissna has been named director of sales, Ingersoll Kalamazoo Division, Borg-Warner Corporation, succeeding the late H. William Overman. Cissna previously was vice president and general manager of the subsidiary Towmotor Sales and Service, Inc., Chicago. R. Paul Metcalfe continues as sales manager of Load Luger equipment.

Henry B. Coldiron is representing Baughman Manufacturing Company, Inc. as a sales engineer in the eastern United States, Quebec and Ontario, Canada. He attended Texas A & M, and for the past ten years has been engaged in the automotive parts business.

E. Van Vechten has been appointed manager of a newly created products division of Keystone Engineering Company. His previous capacity with the firm was that of sales manager.

Wilfred A. Smith has been named manager of new products sales for The B. F. Goodrich Company Industrial Products Division. He will be responsible also for sales of in-

dustrial products to government agencies.

The Le Roi Division of Westinghouse Air Brake Company has completed a new branch plant at 5000—45th West Avenue, Tulsa, Oklahoma. The facility serves as Regional Sales and Petroleum Industry headquarters and includes parts store and extensive warehouse.

**FOR
FORK
LIFTS
AND
INDUSTRIAL
TRUCKS**



**NEW LOW COST CONVERSION
FOR ENGINES UP TO 100 HP**






**CENTURY LP-GAS
CARBURETION**

Get Performance and Economy by converting to LP-Gas with Century Carburetion. Years ahead Century Carburetors have the *extra control* of a metering valve to guarantee perfect fuel-air mixtures for starting, idling and power. Century Carburetors are not adaptations; they are individually designed for each make and model of engine — are calibrated and pre-set to its performance curve.

You save money, too, when you convert to LP-Gas because Century now offers new, low priced small converters which are made especially for lift trucks. These Model H Converters have all the features of larger Century Converters. Easy to install, they are listed under Underwriters' Laboratories, Inc. Write for information and prices.

CENTURY GAS EQUIPMENT COMPANY
6855 East Rosecrans Blvd., Paramount, California

CENTURY METERING VALVE
LP-GAS **CARBURETION**

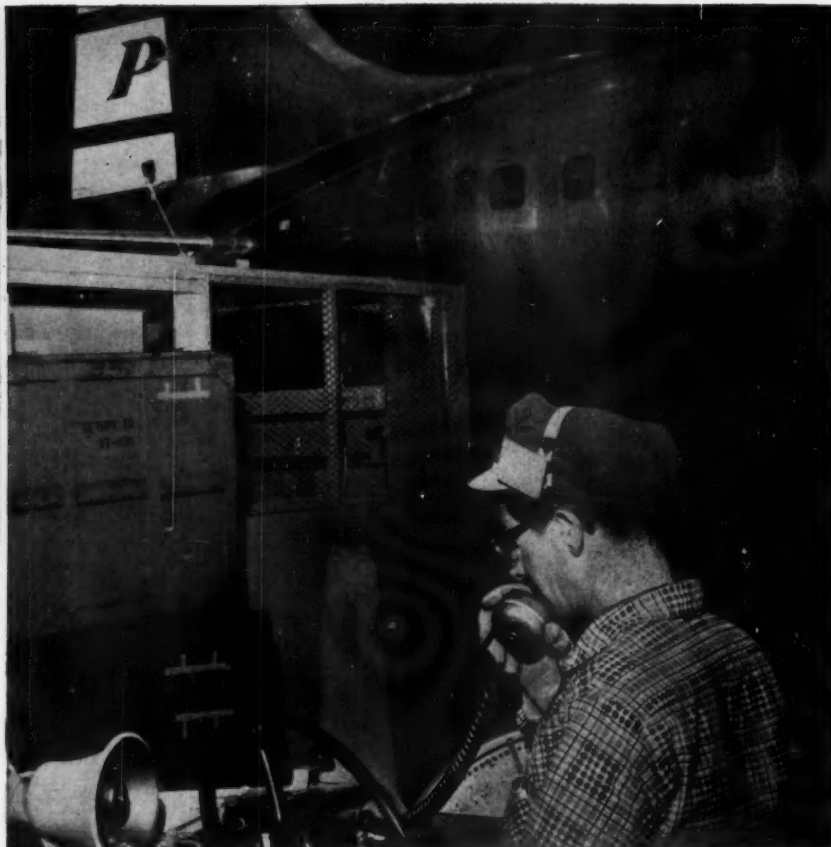
Circle No. 32 on Reader Service Card for more information



G-E base station located in superintendent's office dispatches orders, controls fleets of Douglas material handling units. Vehicles handle 2 times as many jobs as before.



Request for new assignment! Douglas G-E radio equipped tractor is in constant contact with supervisors and other vehicles. Speaker on dash overrides factory noise.



RADIO-EQUIPPED MATERIALS HANDLING VEHICLES COVER TWICE AS MANY JOBS

Douglas Aircraft Finds G-E 2-Way Radio Cuts Time Between Jobs, Coordinates Facilities, And Saves Money

A profitable materials handling operation depends upon efficient control, and maximum use of all equipment. General Electric 2-way radio helps the Douglas Aircraft Company do this—and saves them money.

RADIO COORDINATES OPERATION

This world-famous builder of military and civilian aircraft has radio on handling vehicles in its Santa Monica plant. Radio-equipped fork trucks, cranes, and tractors on the job at Douglas are in constant contact with dispatcher, and each other. Wherever a vehicle is working—in a remote building, at a loading dock outdoors, anywhere, in this 147 acre plant—the operator is under supervision, can get new orders instantly.

SURVEY PROVES RADIO ECONOMY

In one study of radio efficiency on

crane type units alone, Douglas management found that radio had reduced travel distance per job tremendously. Previously, up to 60% deadhead travel had been the case—with radio, these vehicles may handle 2 times as many jobs. On this basis, G-E radio can pay for itself in record time.

G-E LOW POWER SYSTEM

The base station transmitter is located in the transportation supervisor's office. Mobile two-way radios are on vehicles equipped with large speakers to over-ride high factory noise levels. G-E industrial radio may be operated from any of the five DC voltage systems used by handling vehicles. Mobile units perform on either 6 or 12 volt power supplies—

converters are used for 24, 32, and 64 volt trucks. Units operating inside steel buildings and in the open prove the effectiveness of the Low Power radio at Douglas.



INVESTIGATE G-E RADIO

A G-E Communications Counselor can show you the outstanding versatility, sturdy construction, low maintenance features of G-E Industrial Radio. Call him in, or write today to: General Electric Company, Communication Equipment, Section 3256, Electronics Park, Syracuse, New York.

Progress Is Our Most Important Product

GENERAL  ELECTRIC

Circle No. 71 on Reader Service Card for more information

Circle 189 on Reader Service Card →



Perspective illustration shows travel of conveyor system through bench area where principal meter repair and re-assembly occurs. Other conveyors carry meters through stripping, cleaning, tinning, painting, oiling, testing and to storage or shipping.

Conveyors Pacing Production

A Webb overhead trolley conveyor system was designed to provide straight line production flow through all the many operations required in this gas meter repair plant. This straight line flow system resulted in lower production costs . . . reduced manual handling . . . set the pace for production . . . increased efficiency . . . was a contributing factor in improving work quality. Prior to the installation of the conveyor system, there were 25 manual handlings of a gas meter . . . covering 937 feet of movement. Now, there are only two manual handlings of each meter . . . covering 100 feet of movement. These two manual operations occur in Receiving and Final Storage Area.

This Webb conveyor system also provides overhead

storage area for meters in process. A backlog of production constantly flows on the conveyor line. The conveyor brings the meters down to a 34" height when they enter the work bench area. On leaving the area, the conveyors rise again to a 7' clearance level . . . leaving all aisles open at all times. By providing this live storage area overhead, the conveyor system completely frees floor space for production operations.

This installation is a typical example of how Webb conveyor systems are increasing plant efficiency and lowering production costs in many industries. Webb engineers can also help you achieve these goals . . . regardless of your materials handling needs.

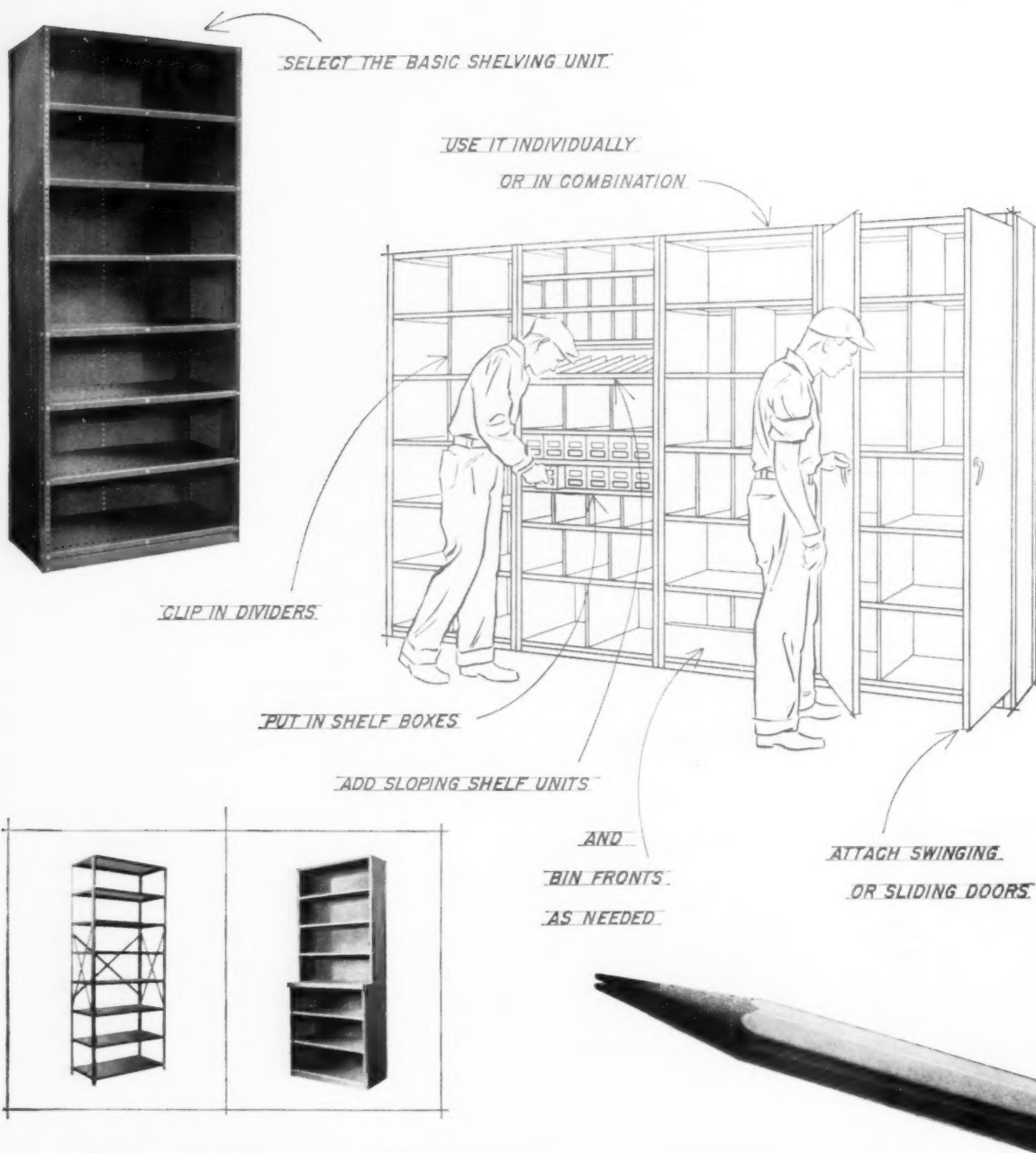
See our Exhibit at Booth 110, Material Handling Institute Show • Cleveland, June 5 to 8

JERVIS B. WEBB CO.

Specialists in Custom Conveyor Systems

8935 ALPINE AVENUE • DETROIT 4, MICHIGAN
 FACTORIES: DETROIT • ATLANTA • LOS ANGELES • HAMILTON, ONTARIO, CANADA • ENGLAND • FRANCE • AUSTRALIA

HOW TO USE HALLOWELL ADJUSTABLE SHELVING



Baked-on Enamel Finish • Sturdy Steel Construction •
Interchangeable Parts Easy to Assemble • Stocked by
Leading Shop Equipment Dealers • Send for Bulletin •
2057 • Hollowell Shop Equipment Division • Standard
Pressed Steel Co., Jenkintown 49, Pa. •

HALLOWELL SHOP EQUIPMENT DIVISION
STANDARD PRESSED STEEL CO.

JENKINTOWN PENNSYLVANIA.

BENCHES (CABINET, WORK, UNIT) • STOOLS AND CHAIRS • SHOP DESKS • TOOL
 STANDS AND CABINETS • DRAWERS, DRAWER TIERS • STEEL CARTS • SHELVING
 Circle No. 168 on Reader Service Card for more information



in useful literature

A bibliography of New and Current Manufacturers' Publications available upon request. Indicate choice (s) on self-mailing Reader Service Card on pages 35 and 36.

Overhead Crane Handbook:

Dominion Bridge Co. Ltd. has published a handbook covering electric overhead travelling cranes and handling equipment. The 40 page book, said to be one of the most complete publications of its type, is profusely illustrated. Contents include information on the latest developments in crane manufacture, classification of cranes, runways, electrical equipment and other data of interest to all crane users.

Circle 201 on Reader Service Card

Quick and Easy Transporting:

Low-lift Model "M" rider type trucks are described in a 4-page bulletin just published by Lewis-Shepard Products. The new models are available in both the pallet type for handling single face pallets and the platform type for skid platforms. Trucks are fully described with photographs, drawings and specifications.

Circle 202 on Reader Service Card

Light to Heavy Duty Casters:

A new four-page condensed catalog showing the full line of Rapistan casters is now available from the Rapids-Standard Co. Steel forged, cold forged, and stamped steel casters, in classifications from light to heavy duty, are described, and recommended uses for each of the series are listed.

Circle 204 on Reader Service Card

Wire Rope Assemblies For All Purposes:

A colorful and information-packed bulletin, describing the complete range of Tru-Loc Fittings and Tru-Loc Wire Rope Assemblies, has been prepared by the Wire Rope Division, Jones & Laughlin Steel Corp. The 24-page bulletin TL 500 contains data on construction features, applications, breaking strengths and other general information of interest to design engineers.

Circle 205 on Reader Service Card

Clean Handling:

A new series of bucket elevators called "Buckels", for lifting bulk materials vertically, is illustrated in a catalog now available from the Bucket Elevator Company. The catalog illustrates a feature in which one entire side of the conveyor elevator casing is removable in panels for quick and thorough cleaning.

Circle 206 on Reader Service Card

Flooring For Heavy Loads:

A new application bulletin describing steel-hard granular plastic flooring compound is offered by the Monroe Co. Reputed to easily withstand 20-ton loads, Steel-hard is especially recommended for loading docks and aisles subjected to heavy industrial traffic. It is said to be particularly suitable for extra-heavy, steel wheel trucking areas.

Circle 207 on Reader Service Card

Versatile Structural Fittings:

A new 12-page catalog presents the complete line of no-thread, no-weld Key-Lok structural fittings. It shows how the fittings may be used with any pipe, even scrap, to build storage racks, railings, maintenance stands and similar structures.

Circle 208 on Reader Service Card

Precision Molded Plastic Products:

An engineering bulletin on precision-molded plastic products for automotive, industrial, household appliance and special applications has been published by the Equipment Sales Division, Raybestos-Manhattan, Inc. The engineering design data section enables product designers to determine shapes and sizes in which R/M Precision molded Products can best be produced. Listed as Bulletin No. 550, the two-color, 16 page booklet is well illustrated.

Circle 210 on Reader Service Card

Unit Load Handling:

The Elwell-Parker Electric Co. has released its latest Case History Report, Number 32, illustrating and describing handling operations at the Michigan plant of the Studebaker-Packard Corp. It shows the efficient fork truck unit load system of handling—in which racks and containers of various types provide maximum effectiveness in handling large quantities of irregularly shaped components during receiving, production, storage, and shipping.

Circle 211 on Reader Service Card

Low Cost Conveying:

A new four-page, illustrated bulletin showing features and uses of overhead trolley conveyors has just been published by Rapistan-Keystone Inc. The many uses of their low cost conveyor system—including its application to transportation, processing, storage, assembly and other phases of production and warehousing—are illustrated and described.

Circle 212 on Reader Service Card

Reduces Rehandling:

Descriptive literature is available from the Chas. Wm. Doepke Co., Inc., telling how standardization of NesTier material handling containers has reduced rehandling of parts, simplified inventory control and made possible more efficient workplace supply. It shows how a single type of container is used for storage as well as for production operations.

Circle 213 on Reader Service Card

Decrease Mobile Storage Space:

New literature describes the popular techniques for adding from 30 to 70 percent more actual storage equipment to existing storage areas, without the addition of more floor space. The literature, available from Dolin Metal Products, Inc., shows how Mobile storage decreases the number of aisles needed, converts aisle space to actual storage areas and utilizes the existing storage equipment.

Circle 215 on Reader Service Card

Complete Crane Specifications:

Bulletin 15-B4 from Bucyrus-Erie Co. is a 40-page, well illustrated booklet on the model 15-B, 1/2-yd. shovel which is readily convertible to dragline, clam-shell, dragshovel or lifting crane. It includes job studies, closeups of mechanical features, complete specifications and working ranges.

(Also reviewed in April)

Circle 216 on Reader Service Card

Handling By Crawler:

Many of the jobs you can do with a crawler tractor are suggested by colorful illustrations in a 12-page booklet just published by American Tractor Corp. It shows the complete Terratrak line, plus matching loaders, dozers, backhoes, scarifiers, winches; material-handling fork lift; and tilt-loading trailers.

(Also reviewed in April)

Circle 217 on Reader Service Card

Power Hand Truck:

A lift truck that will not only lift the load electrically, but also provide electric power travel so that the operator merely walks with it, is amply illustrated in some interesting brochures offered by the Barrett-Cravens Company. The bulletin shows how no lifting or lowering is necessary, nor is pushing or pulling required with this truck.

Circle 218 on Reader Service Card

Describes Electric Fork Trucks:

Two six-page illustrated bulletins, in color, give performance specifications, dimensions, details on controls and construction and tell about available attachments for two new electric fork trucks. Manufactured by Baker-Raulang Co., the trucks were designed especially for high maneuverability, ease of maintenance and increased operator comfort and convenience.

(Also reviewed in April)

Circle 219 on Reader Service Card

Clues to Better Handling:

The latest issue of "Handling Materials Illustrated", colorful house organ of Towmotor Corp. is full of cost cutting information for companies having storage or material handling problems related to receiving, production, warehousing or shipping. The issue contains fully illustrated material handling case histories covering economies effected by fork trucks in handling diverse materials.

(Also reviewed in April)

Circle 220 on Reader Service Card

Quick and Easy Shelving:

Klip-Bilt shelving, "build-yourself", boltless steel shelving, is the subject of a new twelve-page illustrated color catalog just released by The Frick-Gallagher Manufacturing Co. The catalog contains a comprehensive discussion of the Klip-Bilt principle, showing how the shelving may be erected quickly and easily, as well as a detailed survey of the various models of open, closed and ledge type shelving available.

Circle 221 on Reader Service Card

Transfer Switch Guide:

A new 28-page bulletin GEA-4746B, covering General Electric Co.'s complete line of control and transfer switches for low voltage applications up to 600 volts AC or DC is now available. It includes photos, drawings, cutaways and discussions of special features.

(Also reviewed in April)

Circle 222 on Reader Service Card

Concrete Handling Savings:

Savings in concrete block handling techniques are described in a set of three Hyster Company Field Reports. Company operations described are those of Faber Cement Block Co., Chicago Block Co. and Janesville Sand and Gravel Co.

Circle 223 on Reader Service Card

Safe Shipping:

The surest way to insure that your product is shipped the safest way is to talk to your nearest Stanley Steel Strapping specialist, according to The Stanley Works, Steel Strapping Division. He will help you with your packaging and shipping problems and tell you about the Stanley Floating Load System.

(Also reviewed in April)

Circle 224 on Reader Service Card

Portable Lift Movie:

Oster Mfg. Co. has produced a movie, "A Lift For Industry", which details various applications for portable lifts in a large number of industries. It provides comprehensive coverage of the economics of handling with equipment that need not be powered for horizontal transportation.

(Also reviewed in April)

Circle 225 on Reader Service Card

For Speedier, Safer Handling At Docks:

A fully illustrated bulletin from Cemo Industries, Inc., tells how the Hydraul-Ramp (hydraulically adjustable ramp) cuts costs, congestion and injuries in loading and unloading at truck docks.

(Also reviewed in March)

Circle 226 on Reader Service Card

Power Sweeper Specifications:

Newly designed power sweepers—Models 605 and 606—capable of sweeping up 100,000 or more square feet per hour are described in a folder by Wayne Manufacturing Co. Equipment features the "Filter-Vac" dust control which eliminates a dust bag.

(Also reviewed in April)

Circle 227 on Reader Service Card

Conveyor Facts:

Catalog published by Lamson Corp. describes the pre-engineered conveyor in everyday language. Contains general description of uses and applications of various components. Written so that descriptions and illustrations are slanted toward "when to use".

(Also reviewed in April)

Circle 228 on Reader Service Card

Largest Shovel at Work:

The world's largest power shovel at work is the feature of the lead article in the latest issue of Marion Power Shovel Co.'s publication, "The Marion Groundhog". Other articles in the booklet show applications of power shovels under almost every conceivable condition.

(Also reviewed in April)

Circle 229 on Reader Service Card

Electrically-Driven Trucks:

New catalog covers trucks that range in size and load capacity from the compact operator-led Transporters to Giant Skylift fork and ram trucks made by Automatic Transportation Co. Also illustrated are platform and pallet trucks, cranes and special trucks of various kinds.

(Also reviewed in April)

Circle 230 on Reader Service Card

Custom-Built Cylinders:

Information regarding design and materials used in manufacturing its custom-built cylinders is contained in a 6-page bulletin, 79000, from The Oilgear Company. Available for 1500 psi, 3500 psi, or higher pressures, the heavy-duty cylinders cover special applications that could not be accomplished with a standard cylinder.

(Also reviewed in April)

Circle 231 on Reader Service Card

Industrial Trucks At Work:

The winter issue of the "Lever", published by Lewis-Shepard Products, Inc., features idea-provoking applications for narrow aisle trucks, walkies, dragline installations and coil filters. One feature shows how a newspaper handles over a million and a half pounds of paper a day with six trucks.

(Also reviewed in April)

Circle 232 on Reader Service Card

Easy Handling in The Foundry:

Details and photos showing how scrap and cupola charges are handled in a New England malleable iron foundry are given in Case History Report No. 31 by Elwell-Parker Electric Co. The foundry uses a battery-powered 6000 lb. capacity mobile crane, with electro-magnet, to handle 200,000 lbs. of scrap daily.

(Also reviewed in April)

Circle 233 on Reader Service Card

Handbook of Handling Equipment:

Hundreds of items of handling equipment, their applications and specifications are shown in a profusely illustrated, magazine-size booklet published by Palmer-Shile Co. Discussions of standard designs as well as "specials" are included.

(Also reviewed in March)

Circle 234 on Reader Service Card

Woven Wire Slings For Many Purposes:

Included in a new catalog on Gripper woven wire slings is a section devoted to slings covered with Neoprene or plastic for use in handling finished parts or other materials with delicate surfaces. Published by the Cambridge Wire Cloth Co., the illustrated book includes typical application photos, complete price and specification information.

(Also reviewed in April)

Circle 235 on Reader Service Card

Fuel Injection:

"Something Special" is the title of a new booklet released by Caterpillar Tractor Co. dealing with the manufacture of fuel injection equipment. The booklet gives insight into the practices used at the San Leandro plant which produces all Caterpillar fuel injection equipment. All topics covered in the booklet are supported by pictures of each particular operation.

Circle 236 on Reader Service Card

Check List For Preventive Maintenance:

Users of all types of electric industrial trucks are offered a detailed Preventive Maintenance Check List by Elwell-Parker Electric Co. It includes step-by-step schedules for checks at every 50 hours or weekly, 250 hours or monthly, and 1000 hours or every four months.

(Also reviewed in March)

Circle 237 on Reader Service Card

Economical Hydraulic Crane:

The Austin-Western Co. has literature available covering their hydraulic crane. Called the Gould Reports, this literature consists of interesting job stories depicting the versatility and economy possible with the use of the crane.

Circle 238 on Reader Service Card

Pneumatic Conveying:

A 4-page reprint of a technical article on pneumatic conveying is available from Fuller Co. It presents a bulk handling system which extends from a flour mill to a bakery, and in which the various ingredients are transported in special cars and loaded and unloaded pneumatically.

(Also reviewed in April)

Circle 239 on Reader Service Card

Provides Variable Output Speeds:

A Cleveland worm gear speed reducer for every purpose is described in a 180 page catalog put out by the Cleveland Worm & Gear Company. The catalog illustrates and describes the complete line manufactured by the company, with full engineering data—dimensions, weights and horsepower capacities.

Circle 240 on Reader Service Card

Utility Tractor For Heavy Duty Industrial Use:

Material handling as well as other commercial and industrial applications for the new International 300 Utility tractor is illustrated in a folder just released by International Harvester Co. Specifications, features and special duty attachments are also included.

(Also reviewed in March)

Circle 241 on Reader Service Card

Movable Walls:

Low cost movable walls you can erect yourself are described in a 27 page catalog by Unistrut Products Company. Many framing patterns, together with the simple steps of installation, are contained in the literature.

(Also reviewed in March)

Circle 242 on Reader Service Card

Packing Multi-Wall Valve Bags:

How different models of Auger-Matic bag packers can be used to fill multi-wall paper valve bags with different types of materials—from light and fluffy substances to coarse pellets—is described in a brochure available from E. D. Coddington Mfg. Co.

(Also reviewed in April)

Circle 243 on Reader Service Card

V-Belt Drive Story:

The origin, history and development of the modern multiple V-belt drive are covered in a 36-page booklet from Allis-Chalmers Manufacturing Company. This valuable booklet covers the evolution of standards in engineering these drives, tells how to engineer a V-belt drive, provides tables and data and describes modifications in the drives.

(Also reviewed in April)

Circle 244 on Reader Service Card

Heavy-Duty Valves:

Folder V-1 from Wisconsin Hydraulics, Inc., describes and illustrates the company's new C-series 4-way valves. For units up to 20 g.p.m., the heavy-duty valves feature a built-in pressure relief on the tank side, allowing "tamper-proof" settings.

(Also reviewed in April)

Circle 245 on Reader Service Card

Univac for Inventory Control:

The use of the Univac File-Computer to handle inventory control for companies with widespread operations is described in an attractive 4-color brochure published by Remington Rand. The brochure (TM-998) cites the case of a manufacturer whose many different products are housed in 13 warehouses in various parts of the country. Univac gave it better and faster customer service, balanced inventories and savings in shipping costs.

(Also reviewed in April)

Circle 246 on Reader Service Card

Electronic Recorder:

A new 64 page bulletin put out by the Bristol Company covering its Dynamaster electronic potentiometer and bridge instruments for recording and controlling, has just been published. The bulletin is divided into three main sections. The first section gives details of the instruments with full specifications; the second lists sensing elements and special attachments; and the third section describes and illustrates other manufacturer's equipment in which Dynamasters have been incorporated.

Circle 247 on Reader Service Card

Crane User Report:

Whiting Corporation has published an illustrated, 6-page booklet telling how its Trambeam overhead handling systems keep things moving from receiving, through production, to storage and shipping at the Chase Brass & Copper Company.

(Also reviewed in April)

Circle 248 on Reader Service Card

Brake Bulletin:

Features and operating characteristics of the new Series E. electric brake are described in technical Bulletin C-11 released by Star-Kimble Motor Division of Michle Printing Press & Mfg. Co. According to the firm, the new brake incorporates unusual design features of special interest to users of magnetic disk type brakes.

(Also reviewed in March)

Circle 249 on Reader Service Card

Safety Hoist Hook:

A new four-page catalog covering new styles of Bullard-Burnham safety hooks is available. It contains photographs of hooks and connectors, each accompanied by a full explanation of their uses on hoists and cranes. Other data recently made available is an eight-page brochure covering technical information on sizes and types of B-B Hooks needed for many of the popular models of hoists and pullers.

Circle 250 on Reader Service Card

Makes Strapping Easier

A strapping table top, developed by Signode Steel Strapping Co., is described in a new data sheet. Constructed of metal clad plywood, in which one-inch ball casters have been mounted, the device is said to save time and effort, promote safety and pay for itself in a short time.

(Also reviewed in April)

Circle 251 on Reader Service Card

Compact Valve:

Technical bulletin V5006 available from Automatic Switch Company describes in detail a new one-inch size 2-way solenoid valve for use in handling corrosive fluids and gases.

(Also reviewed in March)

Circle 252 on Reader Service Card

Conveyor for Builders:

A new bulletin (No. 551) released by Marion Mfg. Co., describes the Marion Mule Builders Conveyor. The Mule is offered in 22, 32, and 42-foot lengths with maximum discharge height of 30 feet above ground level.

(Also reviewed in April)

Circle 253 on Reader Service Card

Shipping Container Slide Rule

Gross weight of facings, size and bursting strength of containers are correlated in seconds by a shipping container slide rule available from Robert Gair Co. The handy device also includes Government specifications for weather-proof containers. An extremely simple and easy to use shipping aid which you can get free.

(Also reviewed in March)

Circle 254 on Reader Service Card

Greater Load Capacity:

Link-Belt Company's self-aligning roller bearings are described in detail in a new eight-page book just released by the company. This book describes Series S, adjustable single-row self-aligning roller bearings; Series D, adjustable double-row bearings; and Series M, pre-adjusted double-row self-aligning bearings.

Circle 255 on Reader Service Card

Rubberized Hair Cushioning

"Packing for Maximum Protection" is the title of a booklet offered by Armour & Co., Curled Hair Division. It gives all the details of Hairflex, a rubberized-hair cushioning material constructed of springy curled hairs, locked in latex rubber, which absorb even the hardest in-transit shocks and vibrations.

(Also reviewed in April)

Circle 256 on Reader Service Card

Product Directory:

A 24-page directory titled "This is A-C from A to Z" has been released by Allis-Chalmers Manufacturing Company. In addition to an alphabetical description of the company's products and their descriptive literature, the directory has a brief history of Allis-Chalmers, plus the location of the firm's 17 plants, sales offices and tractor branch houses.

(Also reviewed in March)

Circle 257 on Reader Service Card

Auxiliary Hopper:

Red Cross Mfg. Corp.'s Load-R-Lift is the subject of a recently published data sheet. It has a 20-inch trough, sloped flights, is extendable six feet in either direction and will dump any wagon or truck with ease.

(Also reviewed in April)

Circle 258 on Reader Service Card

Magnesium Dock Boards In Many Sizes:

Full information on many sizes of lightweight magnesium dock boards is offered in Bulletin DB-203 published by Magline, Inc.

(Also reviewed in April)

Circle 259 on Reader Service Card

Heavy-Duty Grader:

Engineering, design and performance features of the Forty-Five motor grader are pointed out in catalog MS-446 published by Allis-Chalmers Manufacturing Company. Features that provide maximum safety and comfort for the operator are also outlined, along with specifications.

(Also reviewed in March)

Circle 260 on Reader Service Card

Details on New Two-Way Radiophones:

Portable, two-way "Handie-Talkies" just released by Motorola, Inc., are described in a folder covering descriptions, operating and design features, and accessories. Utilizing transistors, the radiophones are said to provide extended trouble-free life.

(Also reviewed in March)

Circle 261 on Reader Service Card

Portable and Bench Scales:

A new catalog put out by Detecto Scales Inc. contains specific and technical information plus numerous illustrations of Detecto's dormant, portable and bench scales. It also contains illustrations of meat packing, motor truck and dairy type scales.

Circle 262 on Reader Service Card

Truck Climbs Stairs:

Literature available from L-S Heating & Engineering Co. describes the Hyker, a magnesium one-man stairwalking hand truck. It is said to enable one man to handle double his own weight up and down stairs and on and off vehicles.

(Also reviewed in April)

Circle 263 on Reader Service Card

Application Ideas for Industrial Engines:

Some interesting uses for motors produced by Wisconsin Motor Corp. are described and illustrated in the latest issue of the firm's publication, "Engineers".

(Also reviewed in April)

Circle 264 on Reader Service Card

Hydraulic Tail Gates:

A 2-page bulletin describing its Model H-11 series of power-lift hydraulic tail gates is announced by Hercules Steel Products Company. Covering both electric-hydraulic and power take-off driven models of 1100 pounds capacity, it includes operation, controls, construction, suggested applications, and condensed specifications.

(Also reviewed in March)

Circle 265 on Reader Service Card

1956 Guide to Plastics Packaging

An eight-page booklet that covers the subjects: film packaging; coatings applied to metal; foil and paper; molded and blown plastic containers; and closures and rigid vinyl sheets for packaging is available from Bakelite Co. As a ready reference guide, the booklet indicates the almost infinite number of ways plastic materials can be used to package a great variety of products.

(Also reviewed in March)

Circle 266 on Reader Service Card

Newly Designed Magnets:

An 8-page catalog, recently issued by Dings Magnetic Separator Company, fully describes the newly designed Dings line of non-electric Alnico Perma-Plate Magnets which incorporate an entirely new concept of tramp iron removal by the "Dynamic" principle of magnetic attraction. Illustrated in the catalog are the four basic types of new Dings "Dynamic" Perma-Plates, which differ in effective magnetic range from 2½ inches, or under, through 4 inches.

Circle 267 on Reader Service Card

Round Strapping Information

A brochure describing steel strapping equipment suitable for tying, for shipment, products weighing up to 100 pounds has been published by United States Steel's Gerrard Steel Strapping Div. Three separate models of strapping machines, and methods of using them, are shown.

(Also reviewed in March)

Circle 268 on Reader Service Card

Self-Propelled Crane-Shovel:

A 4-page illustrated bulletin describing the self-propelled Model CR-35 Bantam is announced by the Schield Bantam Company. The bulletin, designated No. CR-501, contains detailed information concerning specifications, features, operating data and capacities of the ¾-cubic-yard 6-ton crane-shovel.

(Also reviewed in March)

Circle 269 on Reader Service Card

Complete Truck Line:

A 4-page folder covering its complete line of industrial trucks is available from Lewis-Shepard Products, Inc. The illustrated circular gives a brief description of each of the 42 trucks and attachments included, both powered and non-powered.

(Also reviewed in March)

Circle 270 on Reader Service Card

Fast Inter-Floor Movement of Men and Materials:

Construction and application features of the man-lift for rapid inter-floor transportation are given in a new bulletin, "Manlift", 07B6878B, from Allis Chalmers Mfg. Co. Diagrams, illustrations and descriptions show how personnel and packed materials can be safely moved between levels. Equipment can be furnished with steps and bag carriers alone or in combination. An automatic tripping device will discharge bags at desired levels.

(Also reviewed in April)

Circle 271 on Reader Service Card

Complete Line of Conveyors:

An interesting and illustrative booklet is now available from the Metzgar Conveyor Co. The booklet contains numerous pictures and illustrations on such conveyor types as: gravity, wheel and roller, power-belt, floor-to-floor, press-helpers, midget roller, midget wheel, nylo-roll, and live-roller. It also contains data on accessories, switches and curves.

Circle 272 on Reader Service Card

All About Gearmotors:

Reliance Electric & Engineering Company's 8-page, two-color bulletin, "Reduce Speed", describes the new line of Reliance gearmotors. Included are sections on types, engineering details, maintenance and selection.

(Also reviewed in April)

Circle 273 on Reader Service Card

D-C Motors & Generators:

Facts about the General Electric Company's direct-current motors and generators are contained in specification sheets just made available by the company.

(Also reviewed in March)

Circle 274 on Reader Service Card

Electric Fork Truck:

Automatic Transportation Company announces a 4-page bulletin describing a 200-pound-capacity electric fork truck. The booklet contains specifications of construction, including details on frame, uprights, cantilever and traction drive.

(Also reviewed in March)

Circle 275 on Reader Service Card

Automatic Bulk Scales:

A two-color, 6-page bulletin, No. 8946A, describing three models of the Class 38 automatic weighing unit for bulk materials is offered by Richardson Scale Company. The bulletin discusses construction, operation, feeding arrangements and capacities. Gravity, belt, screw and vibrating feed arrangements are diagrammed.

(Also reviewed in March)

Circle 276 on Reader Service Card

Large Capacity Loader For Confined Areas:

Information on a new tractor-shovel with a 1½ cubic yard capacity, designed to operate in restricted areas, is offered by Tractomotive Corp. The unit has front wheel drive for traction, rear wheel power steering, and clutch-type transmission to permit fast changes in direction without shifting gears.

(Also reviewed in April)

Circle 277 on Reader Service Card

Hand Truck Catalog:

Lansing Company's line of hand trucks, platform trucks, industrial trailers, wheels and casters is illustrated and described in a 24-page catalog. In addition to regular catalog items, "special" also are illustrated.

(Also reviewed in March)

Circle 278 on Reader Service Card

Swinging Door Storage Cabinet:

A brochure produced by Borroughs Mfg. Co. provides complete, illustrated details on a new steel storage cabinet which features: swinging doors; single, central handle; and interchangeable interior parts for high adaptability.

(Also reviewed in April)

Circle 279 on Reader Service Card

Hydraulic and Air Components:

A new 36 page catalog has just been issued by Star Jack Co., Inc. It is entitled, "Hydraulic and Air Components by Star Jack." The new catalog fully describes the services and products of this company, and features specifications and applications of their pumps, cylinders, jacks, braces and other units which are attractively presented.

Circle 280 on Reader Service Card

Flow Charts:

It's easy to make flow charts when you use Chart-Pak, says literature from Chart-Pak, Inc. Catalog tells how to save time and money and keep confidential material in your own desk.

(Also reviewed in March)

Circle 281 on Reader Service Card

Direct-Reading Engine Hour Meters:

Photos, drawings, application examples and tabulated specifications cover the new direct-reading engine hour meters of the John W. Hobbs Corp. in the February-March issue of "Hobbs Hour Meter Talks".

(Also reviewed in April)

Circle 282 on Reader Service Card

Carloading Check Chart

A check chart for anchored loads in freight cars has been developed by Signode Steel Strapping Co. Using a drawing-and-caption type presentation, it gives valuable pointers for preparing the car, wrapping anchor plates, draping the car, constructing and installing bulkheads and getting the most out of strapping tools.

(Also reviewed in March)

Circle 283 on Reader Service Card

Three-in-One Unit:

Kwik-Mix Company has issued an 8-page brochure which shows how its Moto-Bug combines three material handling tools in one. Dump hopper, tilting platform and fork lift attachments interchange on a standard chassis.

(Also reviewed in March)

Circle 284 on Reader Service Card

Gear-Type Pumps:

The Kalamazoo Division of The New York Air Brake Company has issued a bulletin on the Hydreco 3600 series gear-type hydraulic pumps which are specially designed for large industrial and mobile equipment applications.

(Also reviewed in April)

Circle 285 on Reader Service Card

Selection of Canvas Belts:

Data on the selection and specification of stitched canvas belts is given in a new, illustrated catalog published by Main Belting Co. It includes details of construction, impregnation and curing, as well as recommendations for applications with all types of conveyors and materials.

(Also reviewed in March)

Circle 286 on Reader Service Card

Liquid Level Controls:

Electronic equipment for the control of liquid levels in a wide range of process applications is described in bulletins available from Machinery Electrification, Inc.

(Also reviewed in March)

Circle 287 on Reader Service Card

News and Ideas On ConveyORIZED Handling:

Latest and forthcoming products as well as applications of conveyors to numerous types of operations are included in the "Rapid Handler", publication of Rapids Standard Co. A tabloid-size newspaper, it is issued monthly by the company.

(Also reviewed in March)

Circle 288 on Reader Service Card

Preventing Cargo Losses

"Protected Cargoes," a 16 mm. sound film on preventable marine losses, has been produced by the Marine Service Department of the Insurance Co. of North America Companies. The film depicts dramatically the many hazards of overseas shipment and discusses the loss prevention measures in packaging that overcome these problems. It is available for showing to organizations engaged in foreign trade.

(Also reviewed in April)

Circle 289 on Reader Service Card

Better Handling:

Three colorful and informative 4-page brochures covering the entire Towmotor line of fork lift trucks, tractors and accessories has been released to help busy executives who are concerned with material handling problems keep up with new developments in material handling equipment.

Circle 290 on Reader Service Card

Galvanized Steel Conveyors:

The Rapids Standard Company, Inc. has issued a 4-page bulletin detailing its galvanized steel gravity conveyors. Included in the folder is the story of the galvanizing process which prevents galvanized steel from flaking or chipping under extreme tests.

(Also reviewed in March)

Circle 291 on Reader Service Card

"Cat" Diesels:

"Why Cat Diesels Are Best!" is a 16-page booklet offered by Caterpillar Tractor Co. It covers some of the features incorporated in manufacturing Cat diesel engines, lists some of its advantages and discusses turbocharging.

Circle 292 on Reader Service Card

Pneumatic Tubes:

"Airtube on Target" is a 50-page catalog released by Lamson Corporation. A hard-covered book, it describes the several sizes of Airtube systems, central desk and the semi- and automatic switch systems as well as the variety of carriers that are available.

(Also reviewed in April)

Circle 293 on Reader Service Card

Drum Lifters:

Various types and applications of drum lifters—for use with cranes, hoists, or trucks—are described with pictures and specifications in a folder from Merrill Bros.

(Also reviewed in March)

Circle 294 on Reader Service Card

Solves Strapping Needs:

A catalog sheet published by Alleghany Steel Band Company gives the widths and thicknesses, number of feet per pound and tensile strengths of both light and heavy duty Steel-band strapping in all available sizes. Four different styles of reel carriers, a complete list of accessories, a wide selection of tensioning, shearing and sealing tools, and seals in three different styles of copper-plated steel also are shown.

(Also reviewed in March)

Circle 295 on Reader Service Card

New Wood Storage Method:

New ideas in wood storage handling at Rome Kraft Company are featured in No. 14 of a series of articles published by Jervis B. Webb Company. The brochure covers the entire process of manufacturing kraft—from storage to finished product.

(Also reviewed in March)

Circle 296 on Reader Service Card

Report on Car-Spotter:

Results of field tests on the Whiting heavy-duty Trackmobile are available from Whiting Corporation. The 6-page report covers a 2½-year period during which the machine underwent intensive tests under actual operating conditions in major plants representing a wide cross-section of industry.

(Also reviewed in April)

Circle 297 on Reader Service Card

All About Extrusions:

A comprehensive 24-page booklet covering heavy press extrusions is available from Kaiser Aluminum & Chemical Sales, Inc. The publication gives detailed information on the company's presses, how they operate, their manufacturing capacities and extrusion design suggestions.

(Also reviewed in March)

Circle 298 on Reader Service Card

Transfer Units:

An illustrated 4-page bulletin which describes the Fuller Airlide transfer unit, a portable unit for unloading bulk flour, is offered by the Fuller Company.

(Also reviewed in April)

Circle 299 on Reader Service Card

Determining Magnesium Dock Board Requirements:

Charts which tell quickly and easily the cost of dock board equipment for different axle load capacities—ranging from 4,500 to 14,500 lbs.—are included in Bulletin PK-156M by Magnesium Products of Milwaukee.

(Also reviewed in March)

Circle 300 on Reader Service Card

Export Packaging Information

The Overseas Packing and Processing Co. has issued a new brochure which explains the complete list of services and facilities it offers. It includes various types of consolidating, crating and packing . . . unitized packaging and marking . . . plant dismantling and machinery rebuilding.

(Also reviewed in March)

Circle 301 on Reader Service Card

How To Increase Warehouse Space:

Data sheets and a descriptive folder offered by J. R. Perkins Lumber Co. include comprehensive illustrated information on the advantages, applications, and assembly of Tier-Rack stacking pallets.

(Also reviewed in March)

Circle 302 on Reader Service Card

Hand Truck Also Lifts Loads:

Operating procedure, specifications and suggested applications are given in an illustrated data sheet covering the Easy-Lift Hand Truck. Produced by Concrete Machinery Ltd., this equipment serves both as a hand truck and lifting equipment—for placing many kinds of loads on trucks, bench racks and the like.

(Also reviewed in March)

Circle 303 on Reader Service Card

Shipping Hints:

Hinde & Dauch has published a revised edition of its booklet, "How to Ship More Economically in Corrugated Boxes." 24 pages in length, it explores all phases of economy inherent in the use of corrugated packaging. Discusses design, testing, storage, shipping room layout, packing, sealing, stacking and loading.

(Also reviewed in March)

Circle 304 on Reader Service Card

Tough Floor Surfacing:

Plant Maintenance, Inc., offers data on Poly-Rock, a floor surfacing material which is said to be highly resistant to acids, oils, solvents and water. It also is said to be easy to apply.

(Also reviewed in April)

Circle 305 on Reader Service Card

Uses for Impact Recorders:

Four-page folder describes different models of the Impact-O-Graph. It also sets out a number of specific examples of uses and applications in connection with packaging, transportation, handling, preventive maintenance and quality control. Available from The Impact-O-Graph Corp.

(Also reviewed in March)

Circle 306 on Reader Service Card

Details On Hydraulic Truck Loader:

How to save man-equipment hours with the Lodal hydraulic truck loader is shown, with specifications, in a fully illustrated bulletin from Lodal, Inc. The equipment is said to be multi-purpose, of 3000 lbs capacity, suitable to load one truck or many.

(Also reviewed in March)

Circle 307 on Reader Service Card

Variable Speed Transmission:

New catalog describes the principles of operation of the Zero-Max Infinitely Variable Speed Transmission with output speeds from zero to 1/4 input speed. Standard models are shown with optional variations, typical applications and installations suggestions, dimensions and ratings and description of technical services available.

Circle 308 on Reader Service Card

Conveyors in Construction:

Latest issue of Chain Belt Company's "The Rex World" includes pictured descriptions of applications of conveyors to handle building materials on construction sites.

(Also reviewed in March)

Circle 309 on Reader Service Card

Round Steel Strapping Machine:

How round steel strapping can be profitably employed is illustrated with typical examples in a booklet produced by Gerrard Steel Strapping Div., United States Steel Corp. Featured is the Model G round steel strapping machine which tensions, ties and cuts straps in one operation.

(Also reviewed in March)

Circle 310 on Reader Service Card

Mobile Industrial Radio . . . A Case Study:

Uses, experience with, and advantages of industrial radio working at IBM are given in an illustrated brochure produced by Du Mont Communications Dept., Allen B. Du Mont Laboratories, Inc.

(Also reviewed in March)

Circle 311 on Reader Service Card

Data on Helical Gear Drives:

Full information on a new line of helical gear drives is provided in a 16-page Book No. 2651 just issued by Link-Belt Company. Design, engineering and application details of these in-line drives are given—along with cutaway views of double and triple reduction units.

(Also reviewed in March)

Circle 312 on Reader Service Card

Engineering Data On Fittings For Wire Rope & Chain:

Complete information on fittings for wire rope and chain is given in a 28-page catalog issued by The Thomas Laughlin Div., American Hoist & Derrick Co. It includes dimensions and safety factors, is thoroughly documented with data and drawings as well as photographs.

(Also reviewed in March)

Circle 313 on Reader Service Card

Tractor Shovel Shifts Without Stopping:

An illustrated booklet available from the Frank C. Hough Co. features the Model HO "Payloador" tractor shovel. Described are such features as 4-wheel drive, 2 1/4 cubic yard heaped capacity, complete power shift transmission, planetary gear type final drives, torque converter, etc. It also describes how the power-shift transmission makes all shifts without stopping.

Circle 314 on Reader Service Card

Catalog of Rubber Applications:

A fully illustrated, 72-page catalog from Hamilton Rubber Mfg. Co. provides extensive, detailed information on sizes, weights, applications, construction features and other material pertinent to use of the firm's lines of hose, belting, and other rubber products.

(Also reviewed in March)

Circle 315 on Reader Service Card

Photo Series On Turbocharged Dozer:

An instructive, 20-page booklet includes some 50 photographs, arranged in film clip fashion, to illustrate the operation and correct application of the Michigan Model 180 Turbo-Dozer (product of Clark Equipment Co.) said to be the first rubber-tired dozer powered by a turbocharged diesel engine. The booklet is titled, "Turbo-Dozer Bulletin 157".

(Also reviewed in March)

Circle 316 on Reader Service Card

Semi-Automatic Weighing Machines:

The Exact Weight Scale Co. has published literature which describes weighing machines for semi-automatic packaging, bagging, batching, compounding and feeding. Explains method of operation, operation of controls and various types of optional equipment. Also explains type of information required for ordering.

(Also reviewed in March)

Circle 317 on Reader Service Card

Uses For Fractional Horsepower D-C Motors:

General Electric Co. now provides a fully illustrated, detailed, 12-page publication on fractional horsepower, direct-current motors. It includes typical applications, product features, ratings and specifications for standard models. A section describes facilities, engineering and application assistance available for design and production of "specials".

(Also reviewed in March)

Circle 318 on Reader Service Card

Selecting Packaging Supplier:

Koppers Company has just released the 1956 Edition of the Directory of Packaging Suppliers. The booklet is pocket-size and has been designed to serve everyone in industry who is interested in packaging a product. Packaging suppliers in any given area are listed alphabetically.

Circle 319 on Reader Service Card

1000-Pound Portable Elevator:

A catalog sheet from The Oster Manufacturing Company describes its 112-inch, 1000-pound-capacity telescoping portable elevator. The unit features a battery-powered hydraulic lift.

(Also reviewed in April)

Circle 320 on Reader Service Card

Engineering Details on Shuttle-Drive Conveyors:

Stationary and portable models of hydraulically and mechanically driven Delpark Shuttle-Drive Conveyors are detailed in a 4-page bulletin issued by Industrial Filtration Co. The conveyor operates with any trough or trench, handles most kinds of bulk, including liquid-solid mixtures, and will elevate or lower materials.

(Also reviewed in March)

Circle 321 on Reader Service Card

Fiberglas Materials:

"Materials for Industry" is a 12-page booklet from Owens-Corning Fiberglas Corporation describing Fiberglas products for maintenance and supply. Included are photographs and sketches on insulations, reinforced tapes and waterproof papers.

(Also reviewed in April)

Circle 322 on Reader Service Card

Studies on Handling in Petroleum Industry:

Field reports now available from Hyster Company show how material handling savings are being made at Union Oil Co. and Cities Service Co. These case histories illustrate the use of lift trucks with grab attachment for palletless handling of as many as four drums at once.

(Also reviewed in April)

Circle 323 on Reader Service Card

Heavy-Duty Fork Trucks:

Bulletin 1328-A from The Baker-Raulang Company describes and illustrates the company's electric fork trucks with capacities of 7000, 8000 and 10,000 pounds. Features include: power steering, unobstructed visibility, readily-accessible components and three braking systems.

(Also reviewed in April)

Circle 324 on Reader Service Card

Increased Sprocket Life:

A four page, two color brochure just released describes and illustrates Taylor-Wharton's line of manganese-steel sprockets, and points out the advantages of using sprockets with replaceable tooth segments. It also points out that the use of self-hardening manganese steel is claimed to increase sprocket life up to 500 percent over cast-iron types.

Circle 325 on Reader Service Card

Custom Built Valves

A new, comprehensive catalog from Atkomatic Valve Co. describes the company's complete line of electrically operated two-way solenoid valves for air, gas, steam and liquid flow control. Free on request, the catalog lists available dimensions, specifications, pressures, and applications of solenoid valves in bronze and stainless steel. The illustrated catalog also contains numerous coil and flow charts and other useful information.

Circle 326 on Reader Service Card

Increases Output:

The Dexter Folder Co. offers reprints of two technical articles describing how automatic metal sheet handling equipment increases the output of metal-lithography presses as well as slitting, sizing, coating and punching machines. Titles of the articles are "Automation Speeds Line" and "Inland Steel Decorates Drums up to 65 Gallons."

Circle 327 on Reader Service Card

Gummed Tape Tips:

"Gummed Tape Tips from Gilman" is a pocket-size folder published by Gilman Paper Company. It tells how best to use and to store gummed tape.

(Also reviewed in April)

Circle 328 on Reader Service Card

Conveyor Belt Lacing:

Available from the Flexible Steel Lacing Company is a bulletin describing its line of Alligator conveyor belt lacing. Illustrations and data show various types of belt lacing made for various usages.

Circle 329 on Reader Service Card

Speeds Handling Time:

A four page brochure, colorfully illustrated, shows how modern handling methods reduced costs for the Utica Engine Plant of the Packard Division. Put out by the Towmotor Corp., the brochure tells how its lift trucks are used to speed material handling in the highly competitive auto industry—where every minute counts in meeting tight production and delivery schedules.

Circle 330 on Reader Service Card

Variety in Wire Mesh:

The Cambridge Wire Cloth Co. has prepared a brochure which pictures and describes wire cloth in relation to quality, delivery, service, types available and manufacturing and design facilities. Also included in the literature are pictures of the nine types of wire mesh available.

Circle 331 on Reader Service Card

Shipping Guide:

Marsh Stencil Machine Company has published a valuable handbook for the shipping department. In addition to general information on packing and marking shipments, it contains data on Marsh stencil cutting machines, electric tape machines, fountain brushes, stencil inks, markers, oil board and other products used in the shipping room.

(Also reviewed in April)

Circle 332 on Reader Service Card

Motor Driven Overhead Cranes:

A brochure put out by Morris, Wheeler & Co., Inc., illustrates and describes top-running and under-running, single bridge, motor driven cranes. It shows how to select the right motor driven overhead crane and construction features of cranes for standard duty and cranes for intermittent duty.

Circle 333 on Reader Service Card

Stacking Equipment:

Catalog put out by All America Steel Products, a division of All American Radiator Cover Company, describes their line of stacking boxes, nesting pans, adaptor racks, and steel pallets. Technical data covering sizes, weights, etc., is also included.

Circle 334 on Reader Service Card

Packing and Shipping Problems:

Literature from The Stanley Works, Steel Strapping Division, tells about the complete and personal attention given to packing and shipping problems to insure improved packaging.

(Also reviewed in April)

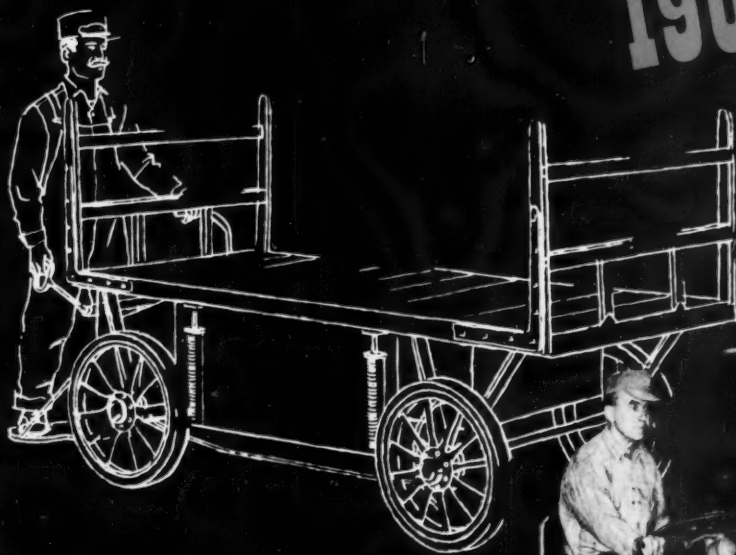
Circle 335 on Reader Service Card

Overhead Traveling Cranes:

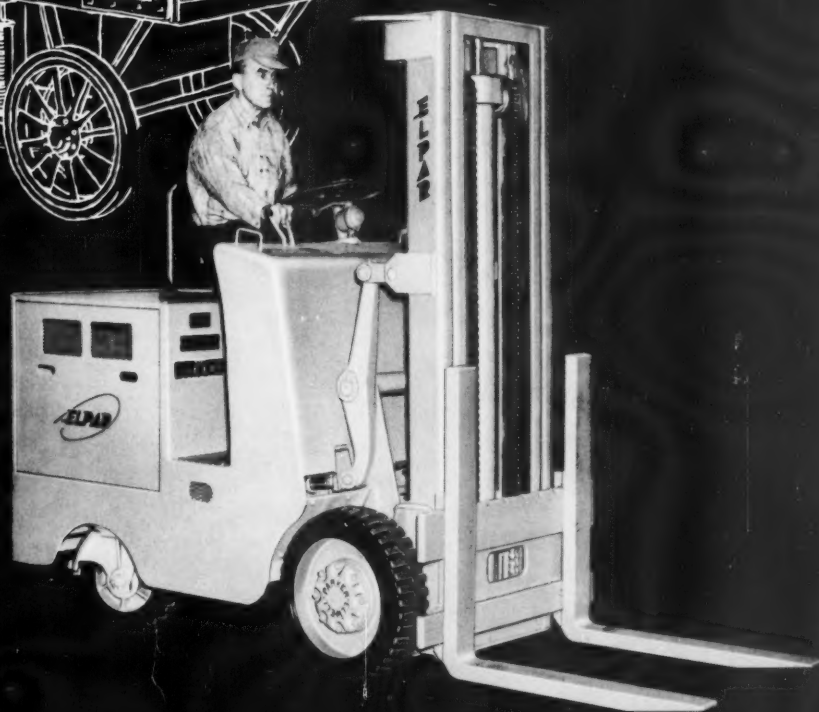
A new, illustrated six-page folder tells of the efficiencies made possible in the receiving, storing, and manufacturing of heavy gauge steel automotive frames through the use of overhead traveling cranes. Photographs in the folder show Whiting cranes unloading and stacking steel plates and moving heavy bundles through the various fabricating departments.

Circle 336 on Reader Service Card

1906



1956



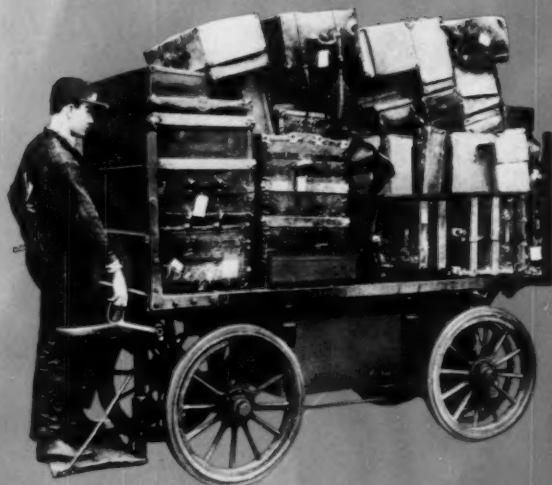
50th Anniversary of the World's First
Power Industrial Truck Built by

THE
ELWELL-PARKER

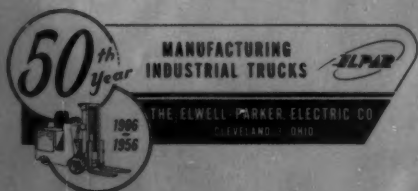
ELECTRIC COMPANY

CLEVELAND, OHIO

THE RISE OF AN INDUSTRY



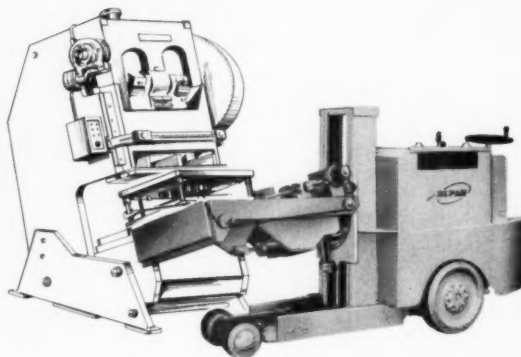
In 1906, Elwell-Parker produced this electrified baggage truck for the Pennsylvania Railroad. This, the world's first industrial truck, *was truly a milestone in the science of materials handling.* In the half century since then, Elwell-Parker has pioneered and perfected many basic advancements in power industrial trucks . . . Throughout the years ELPAR trucks have continued to provide dependable service that cuts costs, increases efficiency, saves time and manpower. Today, in *every* field ELPAR trucks are contributing their full share to industrial progress.



New LOW HEADROOM FORK TRUCKS.

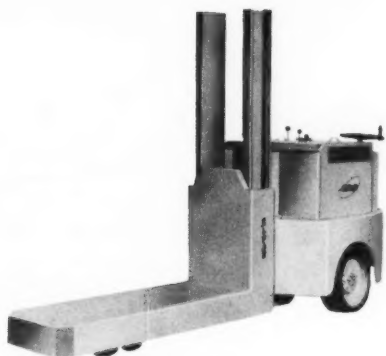
Model F-48T4 is available in 2-4000 lbs. capacity models for street truck loading and jobs where headroom is limited. Height of the battery compartment is reduced so operator's head is safely below the top of the uprights even with short mast heights. No visibility is sacrificed.

See Them, In Action, at the
Materials Handling Show
BOOTH 1020



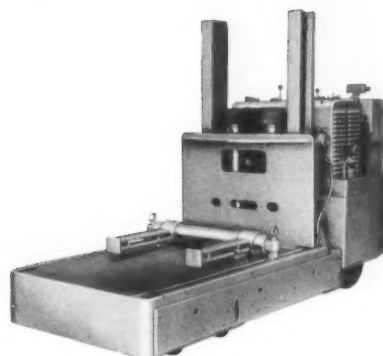
New DIE HANDLER FOR INCLINED PRESSES.

Model ELN6DP is a unique truck with a rotating, tilting platform to remove and set dies in inclined presses, either over the end or over the side of the platform. Lift, winch mechanism, and angle of platform are hydraulically controlled. Capacity 5000 lbs.



New HIGH LIFT PLATFORM TRUCK.

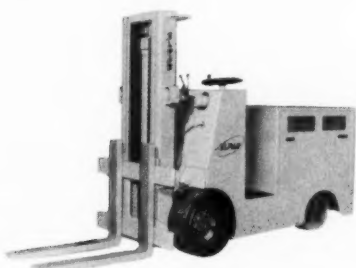
Model E-13-10 is equipped with hydraulic lift mechanism and many other modern refinements to cut maintenance and provide more safety. Travel and lift speeds have been increased. This truck is designed for tiering loads on skids. Can be used with low lift platform trucks for economical load handling.



New DIE HANDLER TRUCKS.

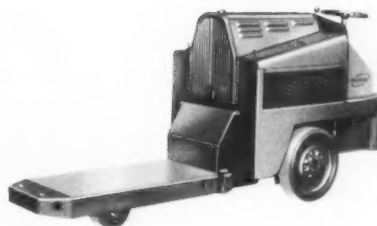
Model E-12 is designed for faster, more flexible changing of dies on stamping and forging presses. Handles 5 to 50 ton dies. Dual hydraulic pusher arms operate separately for greater flexibility—no time wasted rigging cables. Hydraulic control provides "inching" action. Power steer and excellent driver vision.

These Modern **ELPAR** Trucks Offer You
Advanced, Cost-Cutting Handling Methods



New STANDUP, CENTER CONTROL FORK TRUCKS.

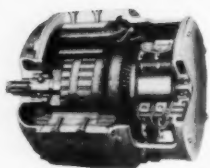
Model R-10T shown is one of a complete line, available in several capacities up to 10,000 lbs. These trucks are ideal for operations requiring the driver to stand. Two standard hydraulic lift heights: 68" high, 100" of lift; 83" high, 130" of lift. This new line augments ELPAR sit-down fork trucks.



Gas LOW LIFT PLATFORM TRUCKS.

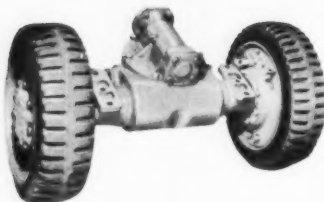
Model GEP6 is the *only* low lift truck available in gasoline or LP gas power. Capacities: 6, 10, 12, and 16,000 lbs. The best truck type for horizontal movement of skid loads. Ideal for extra long loads, outdoor use, and long ramps. Also available in electric powered models up to 80,000 lbs. capacity.

ELPAR *PLUS VALUES* GIVE YOU MORE FOR YOUR TRUCK DOLLAR



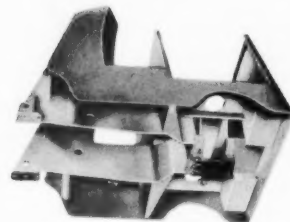
E-P BUILT ELECTRIC MOTORS

Practically indestructible and fireproof. Armature coil-commutator connections are brazed, *not* soldered. Will handle up to 300% overload without damage.



DEPENDABLE DRIVE AXLES

Efficient, silent worm reduction units of heat-treated alloys. Ruggedly built and easily serviced.



"TANK-TOUGH" FRAME

Constructed of welded, heavy plate. Center sill construction permits fast removal of unit assemblies. Accessibility facilitates fast, easy servicing.

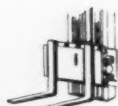
FREE MAINTENANCE CONSULTING SERVICE

E-P service engineers assist your men in proper upkeep for continuing dependability. This *exclusive* service is free for the life of the trucks.

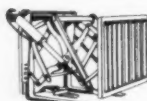


E-P MEN WITH APPLICATION KNOW-HOW

E-P Sales Representatives in all major cities, provide experienced material handling counsel.



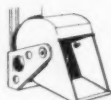
SIDE SHIFTER



PUSHER



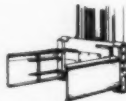
REVOLVING FORKS



E. P. SCOOP



ROLL PAPER CLAMP



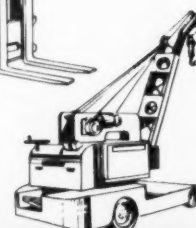
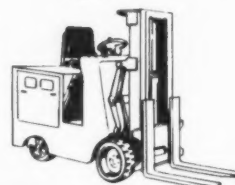
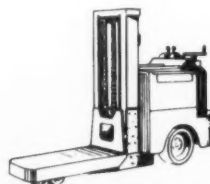
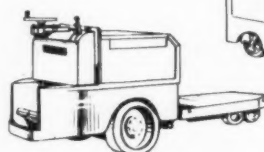
BALE CLAMP

VERSATILE TRUCK ATTACHMENTS

The wide variety includes many types of clamps, load positioning devices, load revolving units, etc. Used to increase the flexibility of standard fork trucks.

COMPLETE LINE

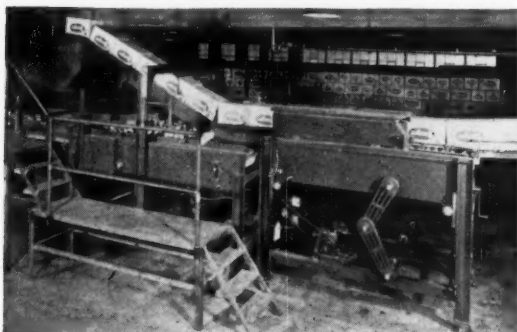
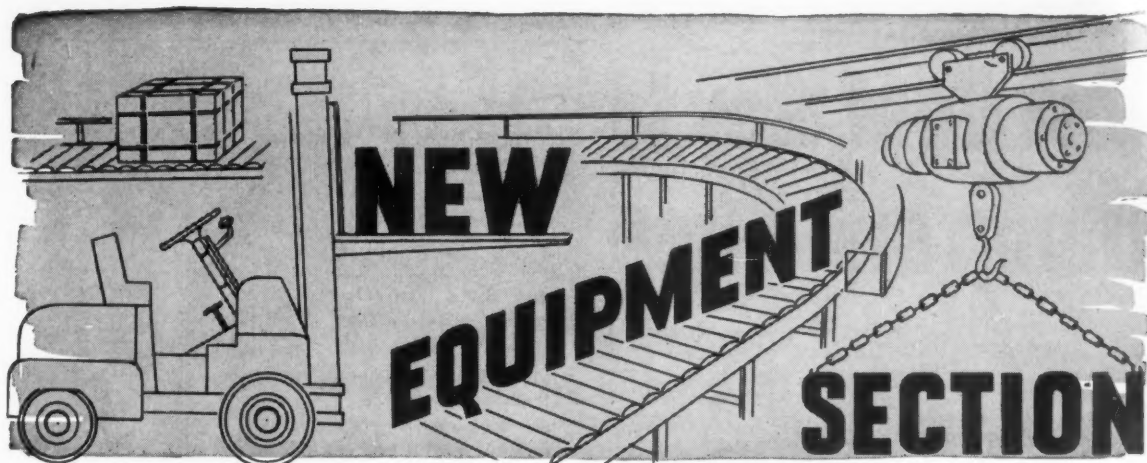
ELPAR trucks include *all* types — fork, low lift, high lift and cranes. Over 150 models.



Write for General Catalog and data about ELPAR trucks in your industry.

THE ELWELL-PARKER ELECTRIC CO.

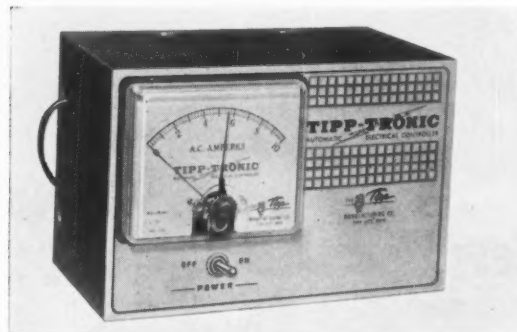
4248 St. Clair Avenue • Cleveland 3, Ohio



Empty Can Unloader

The A-B-C Packaging Machine Corporation is now producing an empty can unloader and unscrambler with a patented unloading mechanism. The device opens the flaps on cases automatically and empty cans slide from cases onto an unloading belt to filling.

Circle 351 for more information



Automatic Safety Controller

The Tipp Manufacturing Company now markets a new automatic safety controller, which provides warning and prevents damage from abnormal load conditions of any kind on electrically driven conveyor systems. It is not affected by line voltage regulations.

Circle 352 for more information



Parts Handling Conveyor

A conveyor that handles stampings, die castings, plastic parts, etc., to tote boxes, bins, or continuous conveyors is being manufactured by the Standard Conveyor Company. The Partsbelt is built in 4, 6, and 8 foot lengths and in widths of 8, 12, and 16 inches.

Circle 353 for more information

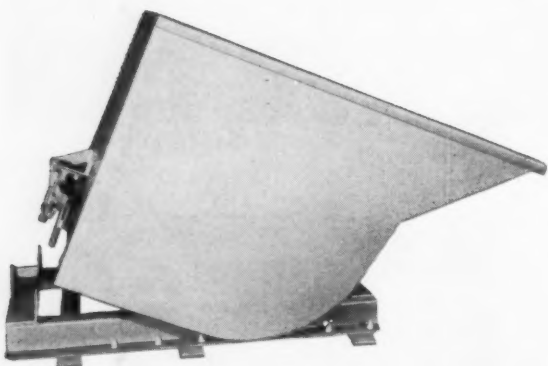


Power Shift Log Handler

Clark Equipment Company's Construction Machinery Division has introduced the Michigan Model 175 Logger. It features the Clark-engineered power train, with a heavy duty torque converter, power shift transmission, and planetary wheel drive and steer axles.

Circle 354 for more information

Low Cost Way to Dump and Store



New Model FIA Pallet Type Phil-Dump

With the use of a lift-truck, a large variety of bulk materials are easily loaded and dumped or stacked and stored with this new labor-saving Phil-Dump. Redesigned to avoid spillage, this money-saving device boasts the sturdy construction for great durability for which all Phillips equipment is famous. Features are a non-slip pallet slot and a patented safety lock which permits automatic but not accidental dumping. Capacity is 1 cu yd. Send order to Salem-Brosius.

Schedule of Prices

1 to 9 units.....	\$135.00 each
10 to 19 units.....	\$128.25 each
20 or more units.....	\$121.50 each

Immediate Delivery

SALEM-BROSIUS, INC.

13 Arch Street • Carnegie, Pa.

PHILLIPS MATERIALS-HANDLING EQUIPMENT

Manufacturers Since 1863

Circle 143 on Reader Service Card for more information
162

NEW EQUIPMENT SECTION

New Dock Leveler

A new "Power Dock", called the 8000 series, is manufactured by the Hartman Metal Fabricators, Inc. The new dock is distinguished from the 7000 series by a manually operated retractable lip feature. The unit is self-contained, has automatic floating action, and has a retractable lever. The load capacity is 20,000 pounds when lip is supported by road truck or is in a level position. The model has an up-and-down limit of 24 inches and an in-and-out limit of 15 inches.



Circle 355 for more information

Cotton-Nylon Conveyor Belting

A new type of conveyor belting has been developed by the Republic Rubber Division of the Lee Rubber and Tire Corporation. The belting, with a load-carrying carcass, is made of plies of frictioned cotton-nylon fabric. It is designed for use where regular belting of the required number of plies and weight of duck is too heavy, where greater troughing would be advantageous when an installation does not have enough take-up room, or where small pulleys are encountered. The belts have 25 percent lighter carcass weight, have less stretch, and will operate over smaller pulleys at higher speeds. Republic offers the belts for use where 32 ounce, 42 ounce, and 48 ounce cotton duck would normally be used.

Circle 356 for more information

Solenoid Shut-out Valve

A new DC solenoid operated pneumatic shut-off valve is now available in normally open or closed versions, with or without manual override. Called Model 21A, the

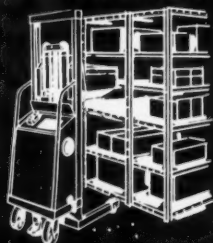


unit is designed for application in aircraft, weapon, missile, or industrial pneumatic systems. The unit has a fully statically balanced valve and sealing members of stainless steel and teflon; some with media nylon. Other features are pressure ranges to 3000 psi; temperature range of -65 degrees F to plus 275 degrees F; current drain is 1.5 amperes maximum at 30 volts DC; and voltage range is 18 to 30 DC continuous duty. The unit is manufactured by National Aircraft Corp.

Circle 357 for more information

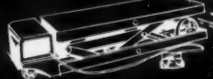
FLOW

STRUCTO RACKING



500 TO 1000 LB. LIFTER

For quick easy stacking of loads

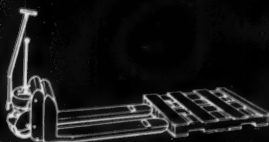


"ELECTRAULIC" LIFT TABLE

For leveling sheet steel or dies at shears or press.



POWERED BELT CONVEYORS PORTABLE CONVEYORS



THE LEVER LIFT with fingertip lifting lever and lowering control

EASY VERTICAL LIFTING

Colson

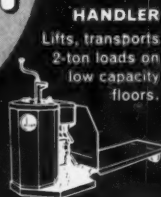
SMOOTH HORIZONTAL ROLLING

No. 6-807-195

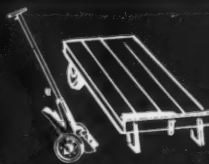
No. 4-1037

CASTERS

No. 6-808-17



HANDLER
Lifts, transports
2-ton loads on
low capacity
floors.



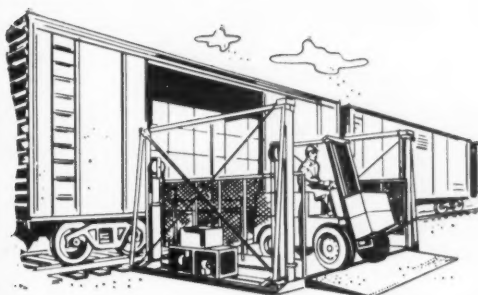
LIFT JACK TRUCK
No. 6712



DRUM HANDLING TRUCK
No. 6055

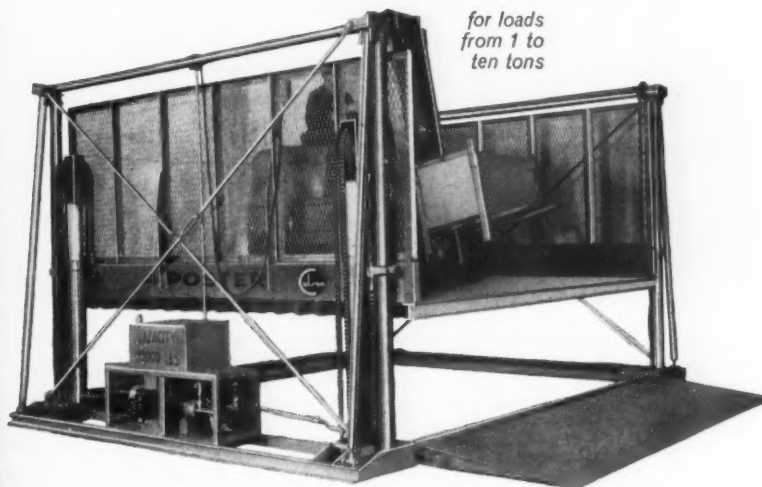


IN LINE TRUCK
No. 7010



*The Colson
"4-Poster"
a portable lifter...
completely hydraulic...
for electric or gas power*

ELIMINATES COSTLY FREIGHT LOADING RAMPS, DOCKS, PITS!



*for loads
from 1 to
ten tons*

Raise or lower loaded fork trucks or other heavy loads economically and quickly to any truck or freight car height with this Colson "4 Poster". Designed for continuous use for lifting heights up to 17 feet... the "4 Poster" is a low investment, economical unit which eliminates many permanent dock ramp or pit installation problems!

- Portable—eliminates delay of extra car or trailer spotting!
- Reduces excessive battery drain caused by ramp climbing!
- Avoids slippery ramp and open pit hazards!
- Saves the space used by long ramps!
- Moves loads faster to proper height!
- Hydraulic unit—electric or gas powered for inside or outside use.

Write or phone for recommendation by specialists
The Colson Corporation • General Offices, Elyria, Ohio

Factories in Elyria, Boston, Toronto

Circle No. 37 on Reader Service Card for more information



POWER STEERING

STANDARD
ON NEW

truck-man
W-40

*TWO TON
HIGH-LIFT



*Capacity with a 24" load center
GUARANTEED FOR A 25% OVERLOAD

THE DRIVER IS BOSS—Not the truck. Power steering means one finger turning, even at a standstill—Reduces operator fatigue and increases efficiency. No tripping over levers or hoses getting on or off either, all dials and levers are just inches below the steering wheel where they belong for effortless handling and added safety. Tilting mast (10° backward, 3-5° forward), speedy lift and 6 inches of free lift complete the picture of a real material handling tool.

POWERHOUSE ON WHEELS—The sturdy, 4 cylinder, industrial engine produces 40 Brake Horse Power — Oversized clutch, transmission and Timken drive axle deliver it without strain. Extra wide tires, front and rear provide the traction to take full advantage of it. Speeds up to 8 mph., forward or reverse.

COMPACT—Intersecting aisles need be only 64" wide. Only 38" x 76¼" (less forks), the W-40 turning radii are only 2" inside and 71" outside.

A SOFT TOUCH FOR MECHANICS, TOO—Here's a truck *designed* for economical maintenance. Tilt cylinders, engine, transmission, clutch and other wear parts are easily worked on or removed.

VERSATILE—Standard Lift is 108"—others to order. A wide variety of fork styles and attachments are also available.

LOTS OF OTHER FEATURES—including: double acting hydraulic brakes, honed tilt and lift cylinders; but why not get the complete story? Even with power steering and extra capacity the W-40 costs less. Call your Truck-Man dealer or write today for folder and price information on the **NEW TRUCK-MAN W-40**.

See our new models
Booth No. 904

Materials Handling Institute Exposition
June 5-8 Cleveland

truck-man

DIV. OF THE KNICKERBOCKER CO.

562 LIBERTY ST., JACKSON, MICHIGAN

Circle 179 on Reader Service Card for more information

164

NEW EQUIPMENT SECTION

New Caster Models

Two new Rapistan caster models—the pneumatic tired caster and dual wheel caster—which have been special order only until now, have been added to its standard caster line by the Rapids-Standard Company. The company asserts the pneumatic tired casters give quieter and smoother operations and also give a cushioned, shock-proof ride to delicate instruments and parts. Protection against vibration is also given. Dual wheel casters are equipped with hard rubber tires or Durastan plastic wheels.



Circle 358 for more information

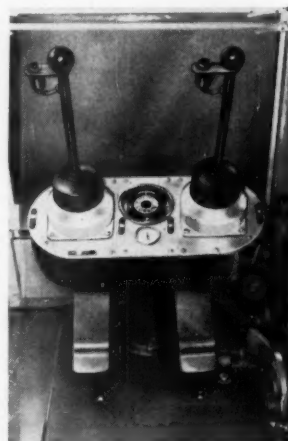
Time Recorder

An all-electric chart drive in any one of four different speeds is now available for use in the Model M, Machine Time Servis Recorder, as reported by the Service Recorder Company. The electrical drive is optional at no extra cost and is available for recording 4, 8, 12, or 24 hours at a time per revolution.

Circle 359 for more information

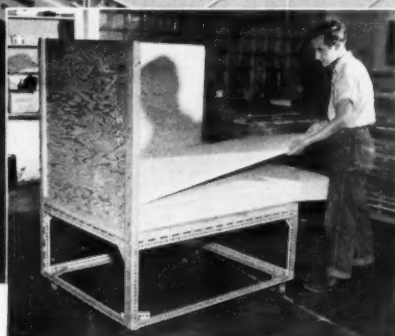
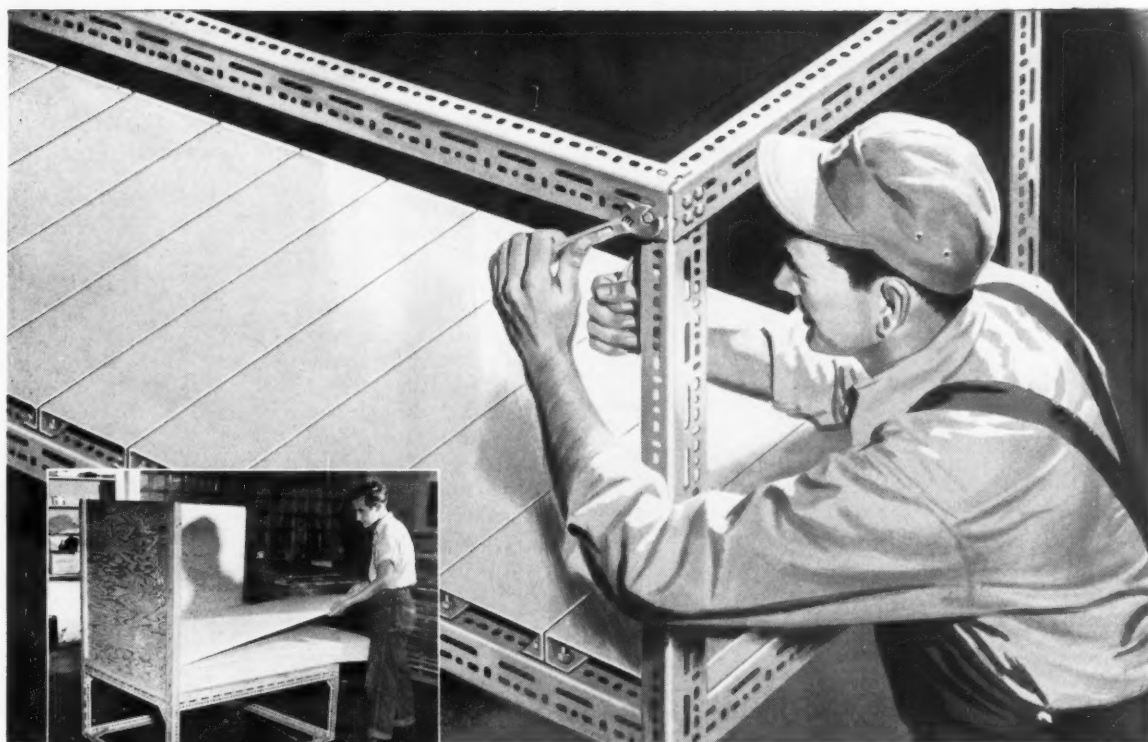
New Type Air Controls

The Thew Shovel Company has adopted a new type of air controls on 8 models of its power shovel and crane line. These models range from 20 to 30 ton capacity on crawler and rubber tire mountings. The new device, called "Air Ease", controls all friction clutches by full-metered air power. Only two levers are used to control the following operations; boom derricking, boom brake, swing, crowd, retract, hoist, clam holding, drag in, power load lowering, and third drum. With this 2-lever control, the operator has both hands on the lever at all times and, by a slight motion to right or left or forward or back, can engage any single operation; or by moving the lever diagonally between any of these positions, for various operations.

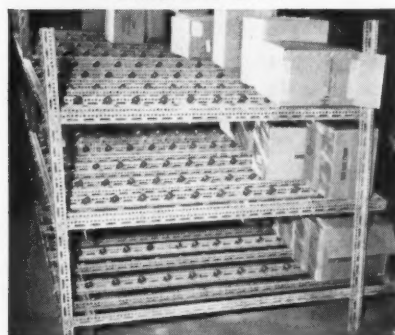


Circle 360 for more information

FLOW



STACKING CART



PICK RACK



STORAGE BINS

Just cut and bolt! . . .

Build anything you want with DEXION Slotted Angle

Almost anyone can assemble DEXION. All you need is a DEXION cutter and wrench to transform this precision-made, cold rolled, galvanized steel angle into practical, useful, economical equipment used almost anywhere in your plant, warehouse, store or office.

Measuring is easy. And one down stroke of the DEXION cutter leaves a clean, square cut. There are no tricky parts to cope with, either. Spacing of slots and holes is engineered to make it easy for you to produce an infinite variety of structures.

DEXION Slotted Angle is a packaged product, ten pieces to the package, in 10 or 12 foot lengths. Includes nuts and bolts. There are two sizes: 3" x 1½" x .104" and 2¼" x 1½" x .080".

Use DEXION panels for shelving or tables. They will support heavy weights and will bolt easily to any frame. DEXION casters make any frame movable.

FREE DEXION Idea Book—The New DEXION idea book will show you scores of actual examples of DEXION in use. Simply write DEPT. 5-B, DEXION Division, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois for the free booklet and the name of your nearest DEXION office or distributor.

DEXION SLOTTED ANGLE



Get rid of Parts-Handling Headaches for good!



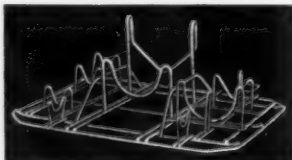
You can simplify handling and speed production flow—permanently and economically—with WIPCO Custom Baskets and parts-handling products! Specially designed to meet the requirements of your specific handling system, WIPCO handling products put parts *where* you want them, *when* you want them, and *the way* you want them! They protect parts from damage, dirt and spillage—step-up efficiency in conveying, assembly, dipping, pickling, painting, drying, draining and degreasing operations.

WIPCO engineers have designed thousands of baskets, racks, trays, conveyor hooks and hangers for every type of application. Let them show you how to cure your parts-handling headaches for good! Write today and tell us your requirements.



CUSTOM BASKETS AND PARTS-HANDLING PRODUCTS

ANY Size, Capacity, Mesh, Metal or Finish—for ANY Requirement!



A specially designed rack for assembly and storage of transmissions.

For special applications, WIPCO custom baskets can be made of steel, galvanized, stainless, Monel, copper, bronze, aluminum or any other metal.

Check Our Complete Line of Parts-Handling Products.



WRITE TODAY FOR BULLETIN MS-521

WIRE & IRON PRODUCTS, INC. 1720 Sixteenth St., Detroit 16, Mich.
Circle 195 on Reader Service Card for more information

NEW EQUIPMENT SECTION

Truck for Hazardous Locations

A gas powered industrial lift truck for safe use in hazardous locations has been developed by the Yale & Towne Manufacturing Co. The GS truck complies with the stringent regulations for GS approval as set down by Underwriters Laboratories. The approval covers Yale's gas-powered trucks in capacities from 3000 to 10,000 pounds. The new GS trucks now fit the safe usage requirements spelled out for locations listed in the code in parts of Class 1, Division 11 and Class 11, Division 11, and all of Class 111, Division 11.

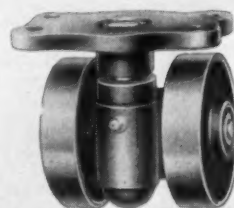
Circle 361 for more information



Knee-Action Caster

A double wheel caster, combining extra load carrying capacity with minimum overall height, is offered by the Hamilton Caster & Mfg. Co. Known as the "Kalber", the caster is designed for extra compactness and perfect oscillation. It features patented knee-action for easy rolling, even over rough surfaces, without stalling or digging in, according to the manufacturer. The casters are available with all metal wheels, or equipped with rubber tires. Wheel diameters range from 3 to 9 inches; capacity ratings from 400 to 1200 pounds per caster.

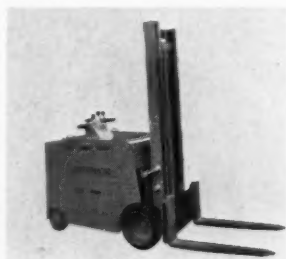
Circle 362 for more information



Docker for Heavy Work

A new 3000-pound 48-inch Docker for use on shipping and loading docks is being manufactured by Automatic Transportation Company. Heaviest of the Docker line yet produced, the new model can operate in 7½ foot aisles and can lift a capacity load 128 inches. Addition of the 3000-pound model gives Automatic a complete series of stand-up end control trucks, ranging from the 1000-pound 48-inch Docker to the 4000-pound 48-inch BF Skylift.

Circle 363 for more information





**HANDLING
SPEED GOES
UP**

Plants the country over standardize on Roebing *All-Purpose Slings*. These slings are all steel, resist kinking, crushing. They're delivered ready for work... their tapered sleeve splices are as strong as the rope itself. Write for descriptive folder and order *All-Purpose Slings* for new speed and economy.

**HANDLING
COSTS
GO
DOWN**

ROEBLING

Subsidiary of The Colorado Fuel and Iron Corporation

JOHN A. ROEBLING'S SONS CORPORATION, TRENTON 2, N. J. BRANCHES: ATLANTA, 934 AVON AVE. • BOSTON, 51 SLEEPER ST. • CHICAGO, 5625 W. ROOSEVELT RD. • CINCINNATI, 3353 FREDDONIA AVE. • CLEVELAND, 13225 LAKEWOOD HEIGHTS BLVD. • DENVER, 4801 JACKSON ST. • DETROIT, 915 FISHER BLDG. • HOUSTON, 6216 NAVIGATION BLVD. • LOS ANGELES, 5340 E. HARBOR ST. • NEW YORK, 19 RECTOR ST. • ODESSA, TEXAS, 1930 E. 2ND ST. • PHILADELPHIA, 230 VINE ST. • SAN FRANCISCO, 1740 17TH ST. • SEATTLE, 900 1ST AVE. S. • TULSA, 231 N. CHEYENNE ST. • EXPORT SALES OFFICE, 19 RECTOR ST., NEW YORK 6, N. Y.



Circle No. 155 on Reader Service Card for more information

MAY, 1956

167

TWO MEN

from your regular plant crew



CAN MOVE YOUR HEAVIEST MACHINE

QUICKLY
EASILY
ECONOMICALLY

WITH ...

MULTITON
TRADE MARK
ROLLER SKIDS

and suitable tractive power

The days of wasteful extravagant roller-bar moving are gone. With a set of MULTITON roller skids you can move any load up to 300

tons more quickly, more easily and at lower cost than by any method previously devised. The MULTITON roller skid lays its own track as it moves easily over smooth or uneven surfaces. . . . It will *swivel, turn, steer* and position heavy loads accurately in tight quarters.

LET US SHOW YOU how to slash moving costs and plant disruption. If your loads weigh two tons or more MULTITON skids will pay for themselves in ONE MOVE, and save thousands in the course of a year. Write for free catalog and 12-page booklet on *Modern Methods of Heavy Equipment Handling and Hauling*. A demonstration in your plant can be arranged — at no cost, of course.



STOKVIS • EDERA & CO., inc.

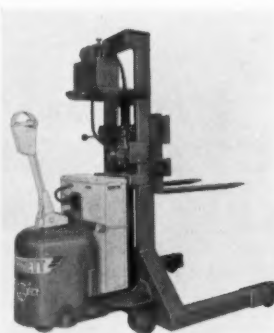
18 Secatog Ave., Dept. FS, Ft. Washington, New York

Circle 172 on Reader Service Card for more information
168

NEW EQUIPMENT SECTION

Straddle Type Walkie

A straddle type Hi-Lift electric truck for double or single faced pallets is manufactured by Barrett-Cravens Company. The truck is designed for safe one-man handling of heavy pallet loads and has such features as being easier on plant floors, ample stability without counter-weighting, and easier, more efficient traction. Standard Model STF 40 has a capacity of 4000 pounds, an overall height of 83 inches and a fork elevation of 68 inches. Elevation up to 131 inches can be provided with a telescopic mast unit.



Circle 364 for more information

King-Size Sweeper

A power sweeper that will pick up and carry to a central dump more than 4 cubic yards of dirt and litter is now in production at the Wayne Manufacturing Company. The new model, called Wayne Model 550, offers for the first time as standard equipment power steering, power brakes, pickup broom adjustment, and Fiberglass cab with safety-glass roll up windows. Power for the Model 550 is furnished by a 148 h. p., V-8 industrial type engine.



Circle 365 for more information

Telescoping Lift

A new 112 inch telescoping portable lift which provides the advantages of mechanized raising and lowering of loads, coupled with the economies of non-powered horizontal transportation, has been introduced by The Oster Manufacturing Company. Specifically designed for high stacking operations, the telescoping lift has a collapsed height low enough for handling loads in elevators, under balconies, and in other low head room areas.



FLOW



It guides easily . . . handles smoothly . . . saves lots of time and trouble. All because this parcel truck is made with magnesium.

"MADE WITH MAGNESIUM!"

Parcel trucks are easier to build, easier to push
when made of light, strong Dow magnesium

From builder to user the benefits of magnesium are considerable. To begin with, there's *light weight*. The world's lightest structural metal, magnesium is one fourth the weight of steel, one third lighter than aluminum. This means it's easier to handle—in the plant and in the store.

Another important advantage of magnesium for the manufacturer is simplified design. The result is ease of fabrication which makes for more efficiency. For the user

this provides larger capacities and much better appearance.

Whether you are building or buying, magnesium is your best choice. Its welding, forming and machining characteristics are excellent. So investigate this truly outstanding structural metal for conveyors, hand trucks—all your materials handling equipment. For more information call your nearest Dow sales office or THE DOW CHEMICAL COMPANY, Midland, Michigan, Dept. MA 367K.

you can depend on DOW MAGNESIUM

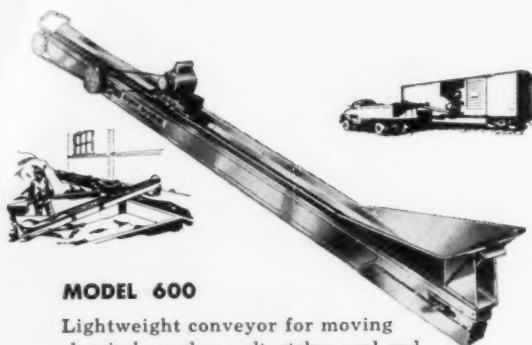


Circle No. 52 on Reader Service Card for more information

Circle 27 on Reader Service Card for more information

BELT HANDY-HANDLER

MEANS TOP VALUE AND UTILITY



MODEL 600

Lightweight conveyor for moving chemical powders, salt, stoker coal and many other bulk materials. All bolted, aluminum frame construction for easy maintenance and servicing. Easily adapted. Easy one-man operation and positioning. Lengths from 10 to 28 feet. Write for complete conveyor catalog.

Prices From \$300.00

THE BELT CORPORATION

7205 Stahl Road

Orient, Ohio

NEW...



RUGER

CONVERTIBLE QUARTER-TONNER

Well can be moved to truck body by removing four bolts. Entire truck crane assembly weighs only 100 pounds.

LOW COST-LARGE PERFORMANCE

An extra bonus piece of equipment—this new Ruger Floor Crane converts easily to a truck crane.

Other models are available in capacities to three tons in floor cranes, two tons in truck cranes.

WRITE:

Ruger Cranes — 601 West Fourth Street, Uhrichsville, Ohio

Circle 160 on Reader Service Card for more information

170

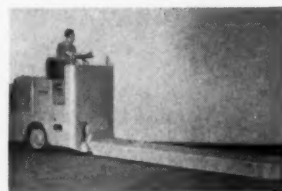
NEW EQUIPMENT SECTION

Designated as the L1112-P, the new model has a 1000 pound capacity and battery powered hydraulic lift. It can be operated by one man, and the lift can be used as a platform truck, portable elevator, or a shop crane. Lifting height is minimum of 2 inches to a maximum of 112 inches.

Circle 366 for more information

Sit-Down Low Lift Truck

An electric powered low lift platform truck that permits the driver to sit rather than stand during handling operations has been developed by the Elwell-Parker Electric Company.



It is claimed that the new design reduces operator fatigue, improves vision, and simplifies operator training. The model is available in capacities ranging from 10,000 to 20,000 pounds, is equipped with four wheel steer, hydraulic platform lift, and can be built with hydraulic power steering.

Circle 367 for more information

Economy Hand Pump

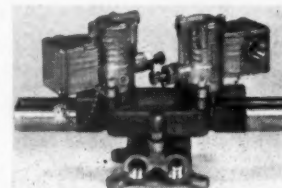
A new piston-type, positive displacement, self-priming hand pump now in production by Bowser, Inc., delivers 20 g.p.m. Features claimed include stainless steel replaceable liner, stainless steel shaft, aluminum body and piston, corrosion resistant valves, molded plastic bearing, and built-in strainer. Fast disassembly permits easy cleaning or reversing of flow direction according to the manufacturer.



Circle 368 for more information

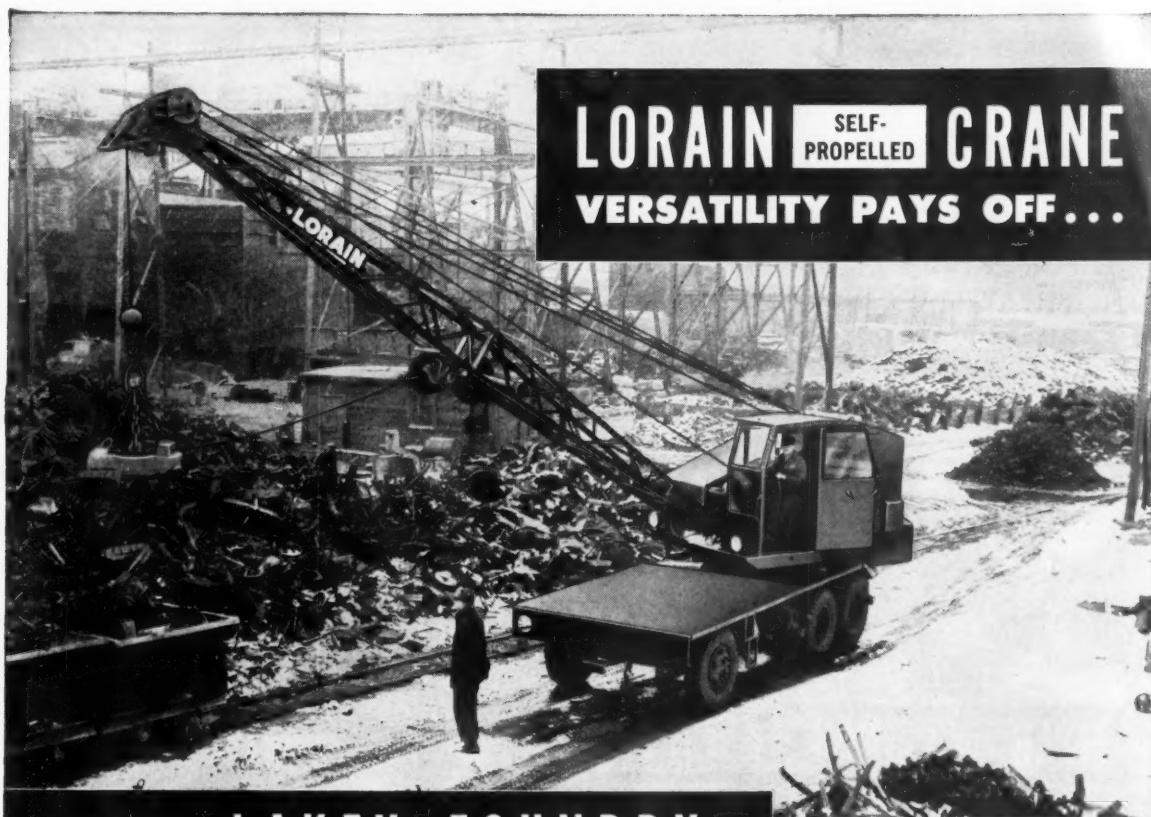
Provides Full Control

A new power-centered neutral attachment for all double solenoid Speed King valves, providing full control of double acting cylinders and similar devices, is being offered by Valvair Corporation.



The new attachment uses air power to provide positive mechanical center-

FLOW



LORAIN SELF-PROPELLED CRANE

VERSATILITY PAYS OFF...

FOR LAKEY FOUNDRY

MUSKEGON HEIGHTS, MICHIGAN

Talk about a "work horse on wheels" . . . Lakey Foundry have one in their 15-ton Lorain Self-Propelled Crane, model SP-254. Equipped with 39-inch magnet, it loads cupola charging cars and trucks with scrap iron, steel and pig, handling up to 350 tons per day. Then the Lorain "doubles-up" with a clamshell bucket to handle coal, coke and blasting sand. Whatever material they want to handle . . . wherever they want to go fast . . . the mobile, rubber-tire Lorain is "Johnny-on-the-spot."

8 WAYS LORAINS PAY OFF

You might have entirely different materials to handle in your yard, but here are 8 basic ways Lorains can save you time and money on any yard material handling problem: (1) Save manpower . . . (2) Higher stacking—more storage per square foot of yard space . . . (3) Fewer aisles required—long booms reach far and wide . . . (4) Switch cars and tow trailers with your Lorain . . . (5) Unrestricted mobility

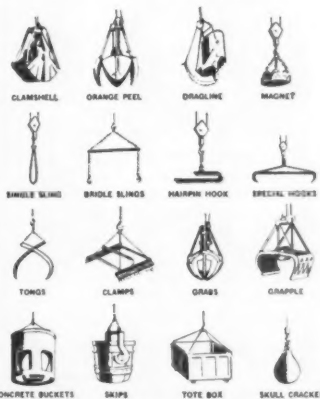
and maneuverability—travel anywhere . . . (6) All-weather duty—high efficiency around the clock . . . (7) Handle any material . . . (8) Use any of more than 16 attachments for additional uses—plant maintenance and construction.

LORAIN SP-254 FEATURES

Put these money-making Lorain features to work for you in your yard: Independent travel with simultaneous hoist, swing and travel • "E-Z" Controls for effortless operation, faster response • Power load lowering, standard equipment • Thew-designed and built Carrier • 4 travel speeds in both directions—up to 7 m.p.h. • Automotive type air power steering • Air Brakes • Excellent multiple-tire soft-ground flotation • High tractive effort . . . plus many more exclusive Lorain features for efficient performance.

16 PAY-OFF ATTACHMENTS

To fit your material handling needs, use any of these attachments (and many more) to handle any size, shape or type of material. Also fit them to Lorain Self-Propelled Cranes in 5 capacities from 10 to 30 tons, or crawler-mounted machines, 8 to 61 tons. See your Thew-Lorain Distributor for full facts.



THE THEW SHOVEL CO.
Lorain, Ohio, U. S. A.

THEW LORAIN

Circle No. 174 on Reader Service Card for more information

HEAVY DUTY

TRAC-LIFT

50

FOR PAVED OR UNPAVED AREAS



Lifts & Carries
5000 Lbs.

Full 11" Under Clearance

Lowens handling costs—Easily handles bulky or heavy loads (up to 5000 lbs.)—11" under-clearance and super traction permits operation where others cannot. 10' tower telescopes to 98 1/2"; Power tilt forward 4°, backward 10°; 5 forward speeds, 1 reverse; Road Speed 20 M.P.H. Excellent Visibility. POWER STEERING and hydraulic operated clutch and brakes permit easier, safer operation and maneuverability.

Service and parts for chassis available at International Harvester Dealers throughout U. S.

LP GAS equipment and complete line of other optional equipment available.

We also manufacture Trac-Lift Models 20L, 20 and 40 with 2000 to 4000 lbs. capacity.

Write or phone for complete information

Dept. F,

PIPER and PAINE Nunda, New York

METZGAR

"NYLO"

CONVEYORS

Resist Corrosion

-wheel
-gravity roller
-live roller

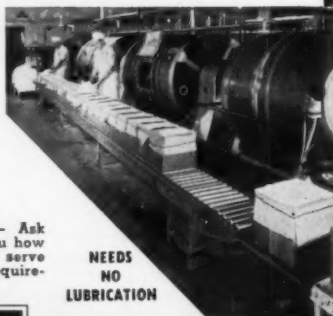
ALL WEATHER GUARANTEE

Made with NYLON wheels and bearings and with galvanized steel rollers with NYLON bearings. Steel or aluminum frames.

EFFICIENT FOR:-
Wet conditions,
Salt, Abrasives,
Fruit and Dairy
Acids, many Industrial Acids.

Temperatures from
150° F. to -10° F.

MANY APPLICATIONS — Ask our engineers to show you how "NYLO" Conveyors can serve you best. Explain your requirements.



NEEDS NO LUBRICATION

METZGAR CONVEYOR CO.

423 Douglas N.W.

MFERS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

GRAND RAPIDS 4, MICH.

Circle 125 on Reader Service Card for more information

172

NEW EQUIPMENT SECTION

ing of the main valve stem in neutral position. Valves are fully enclosed, moisture and dust proof, and are highly corrosion resistant. Single and double solenoid valves are available in a variety of sizes and styles.

Circle 369 for more information

Lightweight Lift Truck

A lightweight hydraulic lift truck weighing only 50 pounds and capable of lifting a 500 pound load to a height of 49 inches is being manufactured by Hydralift, Inc. Controlled by a foot pedal, the specially-designed hydraulic jack is raised 2 1/2 inches at a time to its maximum height.



It can be lowered smoothly and without jolting, with the speed controlled by the amount of pressure on the foot pedal. Other features include self-lubricating hard rubber covered wheels and stabilizing legs. The unit can be used to load and unload trucks outside the plant, and for all-around utility material handling in the plant.

Circle 370 for more information

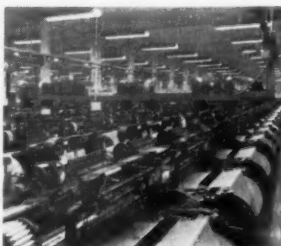
Indicates Rate of Flow

An Electro-Caloric Flow Meter for the measurement and control of the mass rate of flow of liquids is offered by the Industrial Development Labs, Inc. In this instrument, the rate of heat transfer through the boundary layer of a liquid is utilized to obtain a measurement of flow. It is especially suited for corrosive fluids and gases, slurries, hydrocarbons, biologics, beverages, etc., and has many applications in the chemical, pharmaceutical, and food processing industries. The instrument meets the most stringent sanitary and safety requirements, and its linear scale covers a wide range of flows, including pulsating ones.

Circle 371 for more information

Loom Cleaners

A new development in the field of automatic cleaning in textile plants is being manufactured by the Esco Corporation. Called the Esco Loom Cleaner, it has been designed to operate on single line loop systems or

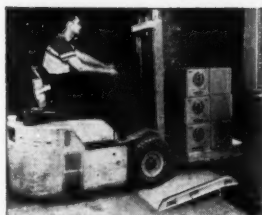


FLOW

Solve your loading problems with Magcoa magnesium materials handling equipment

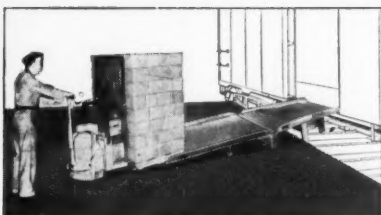
What's Your Loading Problem? Spilling and damaging of loads? Low rail dock? Low truck dock? A narrow, congested dock? Inefficient loading from ground level? Are you planning the dock for a new plant or warehouse? Or modernizing an old dock? Or, is lack of ramp facilities slowing your yard handling? Big demurrage bills? Idle lift trucks and operators? Heavy, out-of-date platform trucks which are subject to corrosion and hard to keep clean?

Look how Magcoa Dockboards solve these loading problems—



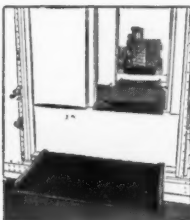
Speeds loading . . . pays for itself

Unlike heavy, makeshift steel plates, Magcoa Dockboards are light, easy to handle and are braced like a bridge to help reduce accidents—protect men, equipment and loads. Won't slip because the exclusive Magcoa safety angle holds it in position. Whatever your loading problem, there's a Magcoa magnesium Dockboard to solve it. It's rugged, permanent equipment.



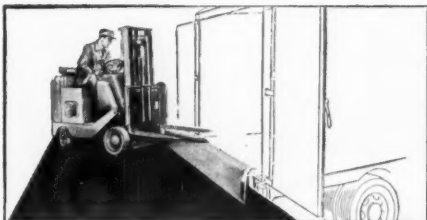
Low-rail-dock and narrow door?

A Magcoa Ramp-Dockboard solves the height differential problem by converting it into a long, smooth grade. Angle curbing at car-end of the Dockboard satisfies underclearance and sideclearance requirements; permits maximum safe use of door opening. Each section—the Ramp and the Dockboard—is moved and positioned by one man. No problem using a Magcoa Ramp-Dockboard.



Car-to-car loading?

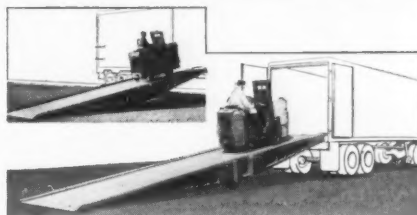
Rugged locking devices assure a snug, slip-proof fit; let you handle loads through one car to another or to the dock. Notice the Dockboard in the far background: it has one straight curb and one flared curb—a special design to permit simultaneous loading of three cars.



Narrow, congested dock?

Flared Magcoa Dockboard solves dangerous, sharp-turn problem on narrow or congested dock because the operator can do most of the turning while on the Dockboard! Exclusive angle stop under the Dockboard holds it in place during loading and unloading.

Portable Yard Ramps solve problems, too—



Ground level car-loading or trailer-loading?

A rugged, high speed loading dock, where you want it, and when. One man moves it, hydraulic lift positions it. For trailer loading, a heavy duty chain-hitch holds the Yard Ramp in place. For fast, straight-in loading of a rail car, safety hooks grab the car-sides and hold the ramp securely. When trackside space prohibits straight-in loading, use a portable magnesium table, a Dockboard and a Yard Ramp. Position the table at the car door, run the Yard Ramp up to it alongside the car. The Dockboard does the rest, bridging the gap between car and the table.

So do Magcoa/Tobey Aluminum Trucks—



Industrial truck problems?

With Magcoa/Tobey aluminum trucks you move more payload weight . . . and less truck weight. Revolutionary casters don't shimmy or wear out. Flexible construction keeps all wheels on the ground—protects tires, casters and payloads. Every ounce of metal carries its share of the load. Hundreds of sizes and styles.

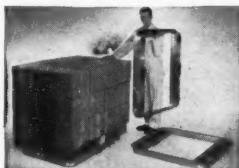


Other Magcoa Products:

Conveyors • Tote Boxes • Carloading Tubes • Barrel Skids Grain Shovels • Can Forks.



Hand Trucks



Pallet Dollies

Write for free literature—without obligation.

Circle No. 114 on Reader Service Card for more information

MAY, 1956

MAGNESIUM COMPANY OF AMERICA

MATERIALS HANDLING DIV.
EAST CHICAGO 1, INDIANA

Representatives in principal cities



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277 Kipling Ave. South
Toronto 14, Ontario

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DETROIT HOIST

The Type M Electric Hoist

WORLD FAMOUS!

for ruggedness, simplicity, low maintenance

Low headroom—hugs the beam for restricted clearances, medium weight, heavy duty.

Lifting capacities from 2,000 to 10,000 pounds.

THE TYPE M—the economy hoist in the long run.

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DETROIT HOIST AND MACHINE CO.
Since 1905—Designers and Manufacturers
8211 Morrow St. Detroit 11, Michigan



Examples of a few typical circuit plans.

HERE'S HELP!

Patented SEALED-PIN CHAIN DESIGN keeps abrasives out—quadruples chain life.

COMPRESSED AIR POWER

Hapman TUBULAR CONVEYORS

Move almost any flowable material—wet or dry—through any plane or angle . . .

Make big savings! Move bulk materials automatically—up, down, through walls, around corners and obstacles with a Hapman! Circuits like these or complex layouts engineered to your needs. Usually a single drive unit serves where other conveyors need several. Design cuts costs. Dust and liquid tight!

WRITE for Circuit Bulletin and Catalog F-56

Hapman CONVEYORS, INC.
DIVISION HAPMAN-DUTTON COMPANY

KALAMAZOO MICHIGAN

In British Commonwealth & Europe: Fisher and Ludlow Ltd., Birmingham

Circle 81 on Reader Service Card for more information
174

NEW EQUIPMENT SECTION

mounted on double girder bridge cranes to provide constant coverage over multiple rows of looms. The crane cleaners work on the same runways in combination with beam handling bridges. Built in limit switches permit constant operation of the crane cleaners without collision with the handling bridges. The company claims a savings in labor is effected in both cleaning and handling with the combination of Esco crane cleaners and beam handling bridges.

Circle 372 for more information

Special Attachment for Open Bottom Bins

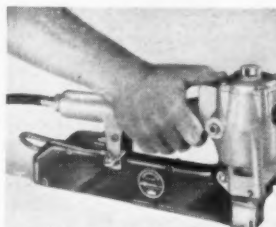
The development of a special attachment for the transportation and dumping of open bottom bins or boxes has been developed by the Yale & Towne Manufacturing Company. The rotating attachment is a clamp with a single arm which, through hydraulic pressure, holds the bin or box securely against the forks of the truck. Any type of container equipped with runners, in a height range from 15½ to 35 inches, can be handled by the attachment. Opening range of the unit is 14½ to 36½ inches and the capacity on a 4000 pound lift truck is 3000 pounds.



Circle 373 for more information

Air-Powered Spotnailer

A model M pneumatic attachment for standard mallet-drive Spotnailers makes the unit into a one-hand operation. The air-drive nailer is particularly useful for fast assembly and closure of



many types of crates. It uses heavy gauge staples up to 1 3/16 inches in length. The machine, manufactured by Spotnails, Inc., readily lends itself to inexpensive mounting in multiples for "gang nailing". The magazines hold as many as 200 fasteners, and reloading is a matter of a few seconds, says the manufacturer.

Circle 374 for more information

Unique Crane Turntable

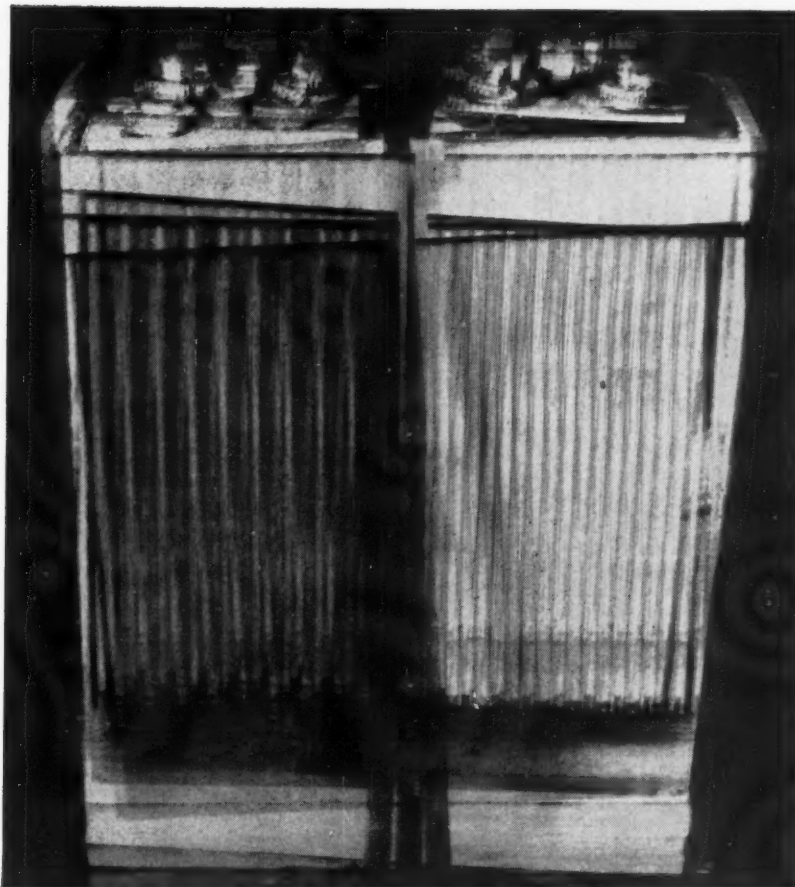
A new method of attaching shovel-crane turntables to crawler or rubber-tire mountings, known as the "Shear Ball" mounting, has been devel-



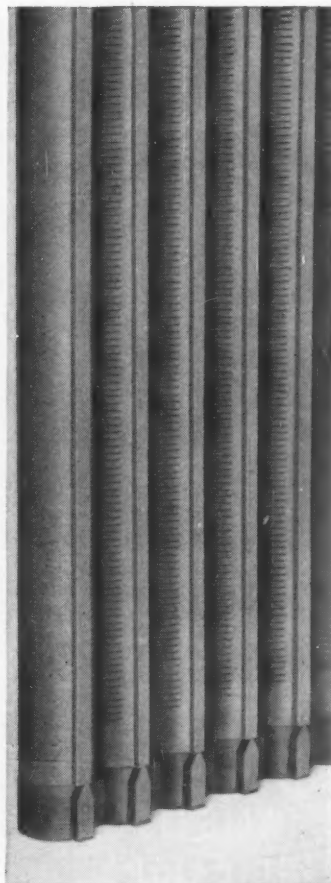
FLOW

EXIDE-IRONCLAD BATTERIES

For electric industrial truck operation



Actual photo taken during vibration torture test on an Ironclad Battery



Section of Ironclad positive plate

Vibration can't loosen active material — can't shorten battery life

BATTERY FOR ELECTRIC INDUSTRIAL TRUCK. Exide-Ironclad Model TH. Write for Bulletin No. 5161.



When a heavy duty storage battery gets the "shake treatment," battery life is literally at the mercy of the bond between the positive grid and the active material. Heavy shedding means short life.

But look what happens in an Exide-Ironclad Battery. Active material is held firmly captive inside the plastic power tubes. Hair-thin slits let electrolyte in, but keep active material from falling out. In prolonged vibration tests, this unique design has proved to be a valuable battery life stretcher. These findings are confirmed in the long, dependable service of Exide-Ironclad Batteries in typical high-vibration applications.

This superior performance is only one of the many extra advantages in Exide-Ironclad Batteries — advantages that have earned them an unmatched reputation for long life and high capacity. When you order heavy duty batteries, or the equipment that requires them, be sure to specify Exide-Ironclad. Write for detailed bulletin. Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 2, Pa.

Exide®

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Circle 41 on Reader Service Card for more information

UP PROFITS? HIGH
WANT TO LOWER COSTS?
CONVOY'S CHEMBOARD* SELF-STACKING TOTE
BOXES MAY BE YOUR ANSWER

Convoy Boxes are **LOW COST, STRONG** and **LIGHT WEIGHT** . . . are made in a wide range of stock sizes and shapes. They weigh and cost less than 40% of steel.

*Chem-Board is Convoy's chemically impregnated corrugated board . . . flint-hard, rock-strong. Here's an example of Convoy Self-Stacking Boxes speeding production, conserving space, saving money.



GET IN TOUCH WITH
CONVOY, INC.
 CANTON 6, OHIO
 P. O. Station B, Box 216-F

STANDARD AND CUSTOM-
 MADE NESTING, STACKING,
 and VERTICAL-SIDED CHEM-
 BOARD TOTE BOXES



WEIGH MATERIALS ON THE SPOT!

With the DILLON Weight Indicator, loads are checked on the spot as they are moved—the instant they are lifted. No need to pick materials up, move them to a scale, set them down and then pick them up again—no more double handling or high operational costs.

Accuracy is guaranteed to be within ONE division or less at any point on the dial. Adjustable for large tare loads. 16" dia. dial. Swivel hook. Accidental overload and shock protected. 6 capacities from 0-250 pounds up to 0-5,000 pounds. Portable—weather-proof—dust-proof. Each unit calibrated with certified dead weights. Extreme utility at LOW cost!

Write today for illustrated, descriptive literature.

W. C. DILLON & CO., INC.

14576Q Keswick St. Van Nuys 9, Calif. (suburb of Los Angeles)

Circle 51 on Reader Service Card for more information

176

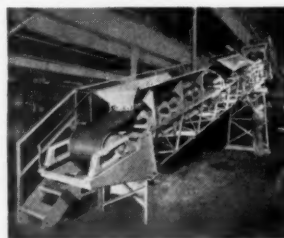
NEW EQUIPMENT SECTION

oped by The Thew Shovel Company. It is claimed this new mounting eliminates the need for top or hook type turntable rollers, for center pins and nuts, for exposed roller paths, and for centering gudgeons, along with the maintenance and adjustment usually associated with these items. The "Shear Ball" mounting is similar to a huge ball bearing, and provides the means of attaching the turntable to the carrier or crawler. The outer race is machined in the ring gear, and when the machined inner race is attached to the turntable bed, the balls themselves interlock the two races and thus hold the turntable on the mounting.

Circle 375 for more information

Pre-Engineered Belt Conveyors

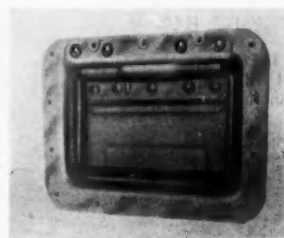
Capacities ranging up to 1,500 tons per hour are available with Pre-Bilt Belt conveyors in standardized, pre-engineered units, says the Link-Belt Company. The conveyors are applicable to practically every industry; also, they are adaptable to such operations as mining, quarrying, construction, etc. The units are built in the plant nearest the job site, and the components are shop-assembled for easy installation. They incorporate standard Link-Belt components and can be mounted on almost any type of support to suit conditions.



Circle 376 for more information

Lightweight Handles

A new line of lightweight, snap-back recessed handles, saving weight and storage space over conventional handles, has been developed by Skydyne Inc., designers of engineered packaging for industry. Designed for use on instruments, dust covers, spare parts boxes, etc., these handles combine the strength of steel with the lightness of aluminum, says the company. The handles are available in three models: the SK-M-124A and SK-H-124A of steel construction for load capacities from 200 to 350 pounds, and the smaller aluminum SK-M-T-300 for a 75 pound capacity.



Circle 377 for more information

FLOW



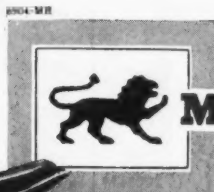
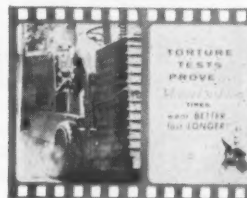
BEFORE YOU'RE **TRAPPED** BY TIRE REPLACEMENT COSTS SWITCH TO **MONARCH** INDUSTRIAL SOLID TIRES

Everyone knows that "rising costs" are rough on profits. Every cost-conscious lift truck user also knows replacement tires can be a major item in his maintenance budget . . . that frequent tire replacement is a luxury he can't afford.

That is why more and more buyers are turning to MONARCH industrial solid tires to reduce materials handling costs. Produced from tough durable Compound T-48C, MONARCH tires are setting new records in performance and long-range economy. Dollars-and-cents facts prove that they give more ton-miles per dollar.

Monarch has a complete range of types and sizes to meet every lift truck requirement. Stocked by lift truck dealers and independent tire distributors across the country, Monarch solid tires are your best buy for all-around efficiency and savings.

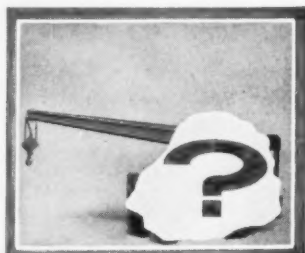
For additional details, see the Yellow Pages for the name of your nearest dealer . . . or write today for BULLETIN TD-200.



**THE
MONARCH
RUBBER COMPANY**

- 210 Lincoln Park • Hartville, Ohio
- 7-225 General Motors Bldg., Detroit 2, Mich.
- 1035 Bartlett Street, Hayward, Calif.

SOON ...FROM SERVICE SUPPLY



...A NEW 5 TON CRANE with Greater Dollar Saving Features!

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- STABILITY
- SIMPLICITY
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PLUS

COMPLETE HYDRAULIC OPERATION • LONGER & HIGHER REACH • POWER STEERING • SOLID OR PNEUMATIC TIRES
SPACE 1036

MATERIALS HANDLING INSTITUTE EXPOSITION
June 5th-8th • Cleveland, Ohio

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FOR MODERN MATERIALS HANDLING— ROEBLING TAPERED SLEEVE SLINGS

ECONOMY! FLEXIBILITY! DOUBLE SAFETY! That's what you get with Roebing Slings. They are as strong as the rope. No need to make allowances for the inefficiency of splices.

What's more, these slings are remarkably easy to handle. There are no servings...wire ends are permanently locked under the tapered sleeve...no long bulky spliced section reduces useable sling length. They come to you ready for work...cost less than most other slings; if desired, they can be supplied in any multi-leg sling or fitting combination.

Send for All-Purpose Sling folder. John A. Roebing's Sons Corporation, Trenton 2, N. J.



ROEBLING



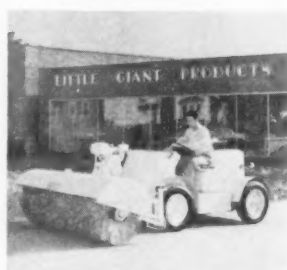
Subsidiary of The Colorado Fuel and Iron Corporation

Circle 154 on Reader Service Card for more information
178

NEW EQUIPMENT SECTION

Self-propelled Road Sweeper

A self propelled road sweeper is being manufactured by Little Giant Products, Inc. Called the SP-C, the machine is a combination of a prime mover and rotary brush assembly, each with its individual engine. The prime mover has a

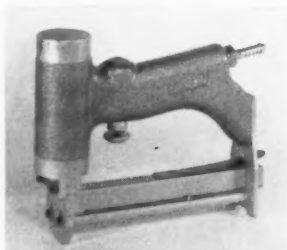


heavy duty, 48 HP industrial engine, is water cooled and electrically started. Dirt, trash, rock, snow, and other materials quickly cleaned from any relatively even surface. The unit has an automotive type, easy shifting, four speed transmission, and rear wheel steering provides a 11 foot turning radius. The machine stands 4 feet 3 inches high and is 11 feet 6 inches long. Optional equipment for the sweeper includes a dust control water sprinkling system, front deflector, and steel bristle broom.

Circle 378 for more information

High-Speed Fastening

The Industrial Fastener Division of the Heller Corp. has designed a new tool for one-hand high speed fastening which will drive staples in hard and soft woods, hardboard, and light metals. Compact and light

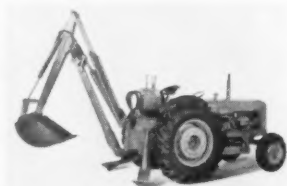


in weight, it can be used as a tackler or a stapler by making one quick attachment change. Both heavy and light staples in 1/8 inch, 1/4 inch, 3/8 inch, and 1/2 inch lengths can be used.

Circle 379 for more information

Power Digger Attachment

Sherman Products, Inc. has introduced a hydraulic back-hoe specifically designed and built for attachment to Fordson-Major tractors. The digger has an 180 degree arc swing making it



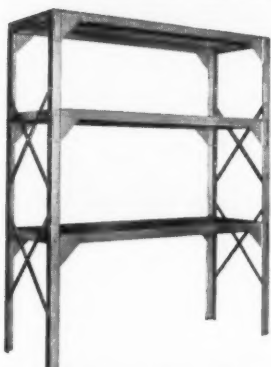
possible to clear a height of 8 feet, 8 inches for loading trucks. Twin crowd cylinders allow extra balanced power, permitting fast, efficient digging through any soil. The digger is made of heavy steel plate construction, has a bucket linkage which provides maximum wrap-around, and a stroke up to 5000 pounds effective pressure.

Circle 380 for more information

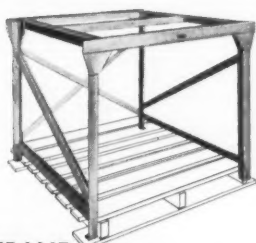
FLOW

NEW IDEAS

TO DOUBLE YOUR STORAGE CAPACITY



BULK STORAGE RACK
Long-span (6') shelving handles lengthy packages or bulk loads. No. BSR-247

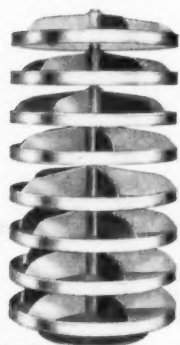


PALLET FRAME
Permits fast pallet stacking of irregular or crushable loads. No. PF-44



WAREHOUSE RACK
For storage of heaviest palletized loads—up to 4000 lbs. per shelf!
No. WR-9

Time- and space-saving equipment of advance design . . . permits new economy, efficiency and handling ease . . . for every storage operation.

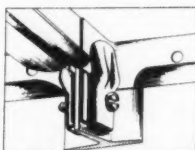
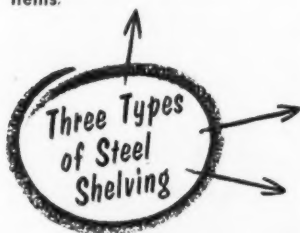


ROTABINS
For broken package lots large quantities of small items.



SERVICE CART
For moving small items quickly, safely in plant operation.
No. SC-30

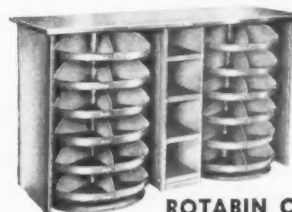
CONDUIT RACK
Permits vertical storage of conduit and tubing in lengths up to 10'.
No. ECR



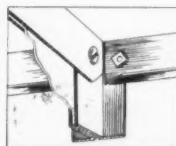
KLIP-BILT SHELVING
Installation is fast without tools . . . using simple clips.



ANGLE TYPE SHELVING
Offers a wide range of standard sizes, parts and accessories.



ROTABIN COUNTER
Permits finger-tip accessibility of many fast-moving small items.
No. C-286-27-S



THE FRICK-GALLAGHER MFG. CO.

WELLSTON, OHIO

Specialists in Storage Planning and Manufacturing of Storage Equipment

Circle No. 66 on Reader Service Card for more information

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105 So. Michigan Avenue, Wellston, Ohio

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| <input type="checkbox"/> Miscellaneous Equipment (Cat. No. 702) | <input type="checkbox"/> Name _____ |
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| <input type="checkbox"/> Rotabins (Cat. No. 110-A) | <input type="checkbox"/> Address _____ |
| <input type="checkbox"/> Angle Type Shelving (Cat. No. 550) | <input type="checkbox"/> City _____ Zone _____ State _____ |

**STOP
GUESSING
START
SAVING!**



\$55

TIME-RECORDER + TOTALIZER

Chronologically records actual on-and-off time by duration.

Gives absolute time-study data per operation.

Establishes true cost accounting.

Permits supervision of parts replacement, repairs, maintenance.

Gives total operating time of machine, feed or belt-line.

Allows ability to anticipate equipment servicing.

gives complete production data continuously... automatically



Now get complete, accurate, documented production data on any machine, process, operation. Eliminates costly, inaccurate spot-checks, time studies.

TR+T records on continuous 4-month tape. Uses no ink. No maintenance. Thousands in use in large and small plants.


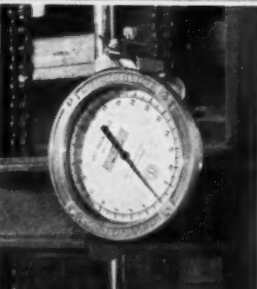
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STANDARD INSTRUMENT CORP.
DIVISION OF HEAT-TIMER CORPORATION
657 BROADWAY • NEW YORK 12, N. Y.



THIS TRUCK WEIGHS AS IT LIFTS

with a Martin-Decker Lift-Truck Scale

This low-cost scale can be put on any hydraulic fork lift. It assures a full, safe load. Protects men and equipment. Used to sum up stock. Prevents floor overloads.

For full data, write Martin-Decker Corp., 3431 Cherry Ave., Long Beach 7, Calif., Dept. N-12

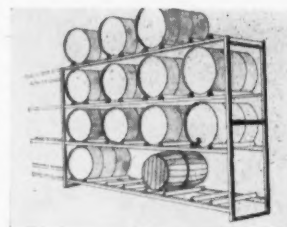
MARTIN-DECKER CORP.
HOME OF THE WRIGHT INDICATOR — LONG BEACH, CALIFORNIA

Circle 119 on Reader Service Card for more information

NEW EQUIPMENT SECTION

Drum Storage Rack

A new drum storage rack has been designed by Artco Corporation as an addition to its Rak-A-Tier line. The rack will handle different size barrels and drums, as the spreaders give full support along the entire length from front to rear of the rack. More storage is permitted within a given area as all rights are used, and accessibility to each drum is direct. The drum rack is made up of welded units that bolt securely together and form a rigid unit.



Circle 381 for more information

Labeling Tapes

Labelon Tape Company is now carrying as stock items acetate film and flatback labeling tapes already printed with a great many frequently used messages, such as "Made in USA", "Fragile", "Poison", etc. The tapes also feature uncommon messages, such as "Make Call Brief", etc. Many color combinations are available.



Circle 382 for more information

Quick Change Casters

With a twist of the wrist, Rapistan swivel casters now can be changed into rigid models, says the manufacturer, the Rapids-Standard Company, Inc. This quick change is accomplished by a new caster lock which adds versatility to the line of casters. In operation, the caster can become rigid by turning a special pin on the caster. When the pin is moved, a cam operated plunger enters a special notch in the yoke base of the caster rig and sets the caster in a rigid position.



Circle 383 for more information

MOTO-TRUC *Instant Power...*

...like the "FLICK" of a light switch



*The MATERIAL HANDLING
INSTITUTE'S EXPOSITION
Cleveland, Ohio*

PUBLIC AUDITORIUM
JUNE 5th THRU 8th
1956



**BOOTH
416-417**

Model Pal
(4,000 to 6,000 lbs capacity)



The MOTO-TRUC Co

Representatives in Principal Cities

1955 E. 59th St. • Cleveland 3, Ohio

Pallet... Platform... Hi-Lift Trucks

The Originators of the Walkie and
Small Rider Type Truck.

MOTO-TRUC offers amazing efficiency with
INSTANT ACTION! (Two speeds, forward
and reverse.)

This INSTANT ACTION transmits power to
the drive wheel with a minimum of moving
parts. MOTO-TRUC design "pays off" with
less maintenance . . . and years of trouble
free operation.

Remember . . . MOTO-TRUC originated the
walkie and small rider type trucks . . . and
THERE'S A MOTO-TRUC FOR EVERY PUR-
POSE. Send for Bulletin No. 53 covering the
complete line.

Circle No. 130 on Reader Service Card for more information

MAY, 1956

101

Stop dangerous handling of INDUSTRIAL LIQUIDS



You can stop dangerous handling of liquids with Tokheim high vacuum pumps. Their use in maintenance work will help prevent spilling, slopping, over-filling and dripping—all enemies of safety. This means your plant can be kept cleaner—work is speeded—waste halted—accidents prevented.

Tokheims are available with hose or spout outlets and other optional attachments. Pump operates on both forward and back strokes—delivers 20 gallons a minute. Will pump 'most anything' that pours. Offered with alternate parts to handle special liquids.

Call your dealer, your Tokheim representative or write factory for literature.

TOKHEIM
DOUBLE-ACTION
HAND PUMPS

General Products Division

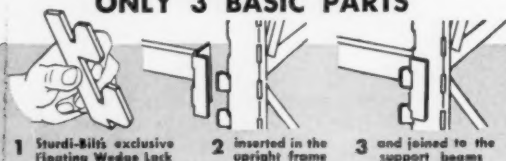
TOKHEIM CORPORATION

Designers and Builders of Superior Equipment
1668 Wabash Ave. Since 1901 Fort Wayne 1, Ind.
Factory Branch: 1309 Howard Street, San Francisco 3, California
In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto

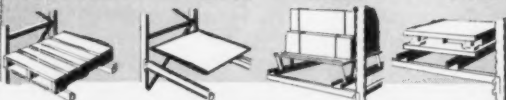
STURDI-BILT ADJUSTABLE STORAGE RACKS



ONLY 3 BASIC PARTS



Make any type rack for
PALLETS • BULK • SKIDS • DIES



VERSATILE! FLEXIBLE! ECONOMICAL!

One rack to serve all your needs! Handle all types of storage interchangeably at any time! No tools, nuts, bolts, erection welding or special labor to assemble, rearrange or adapt to changing needs. Available in one or two pallet width openings—heights to fit your needs—and they stack for added utility.

Sturdi-Bilt

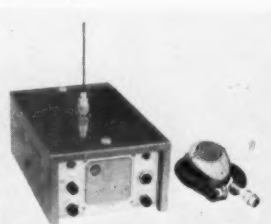
ENGINEERING CO. INC. Dept. F-5
2501 Peterson Ave., Chicago 45, Ill.

Circle 161 on Reader Service Card for more information
182

NEW EQUIPMENT SECTION

Boosts Vehicle Efficiency

A new and small low power industrial radio-telephone designed for installation on material handling trucks, messenger vehicles, and transportation units has been developed by the Kaar Engineering Corporation.

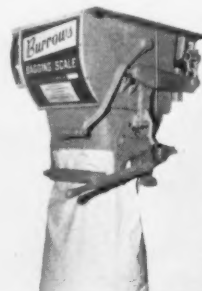


Designated the IMP (Industrial Mobile Phone), it is capable of performing the triple duties of base station, mobile unit, and mobile public address system, says the manufacturer. The IMP has a range of from one to five miles and, without any modification, can operate on 6 or 12 volts DC, or 117 volts AC. Weight is 21 pounds and it measures approximately 12 inches x 8 inches x 5 inches.

Circle 384 for more information

Bagging Scale

A new Model 700 Bagging Scale is now available from the Burrows Equipment Company. The scale is hand-operated and can very quickly and easily be attached to a feed mixer or hopper, claims the manufacturer. It will bag six to eight bags per minute



of grain, feed, seed or any free flowing material. The scale has a new weighbeam which is built into the back of the scale, eliminating loose weights. The scale weighs up to 160 pounds, and is made of aluminum and steel castings.

Circle 385 for more information

Hydraulic Crane

An all hydraulic crane is being offered by the Grove Mfg. Co. The load line, boom topping, boom length, are all operated by finger-tip controlled hydraulics. The crane also has full power hydraulic rear wheel steering. Lifting and carrying capacity is three tons with the hook eight feet from the bumper and one and one half tons with the hook sixteen feet from the bumper. The company says the crane is lower priced, costs less to operate, lifts heavier loads and will maneuver in tighter spots.



Circle 386 for more information

FLOW

20% reduction in Inventory Space

90% reduction in Operating Personnel

... with **ECONOMY** elevating transfer cars

Heavy jet turbine engine subassemblies are handled with push button ease on Economy elevating transfer cars.

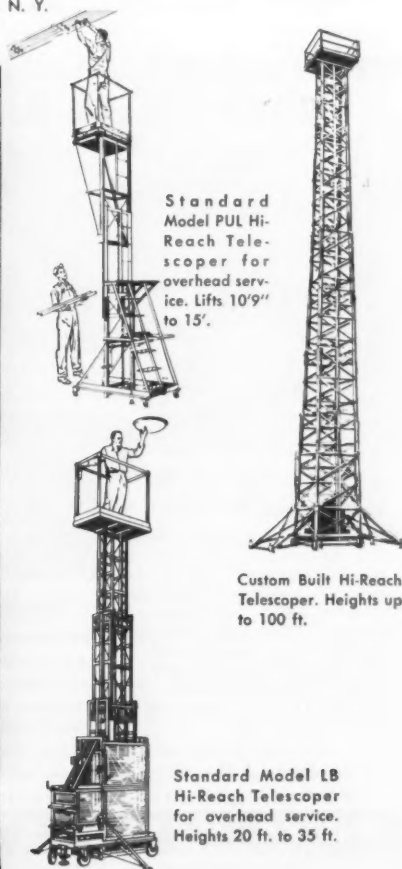
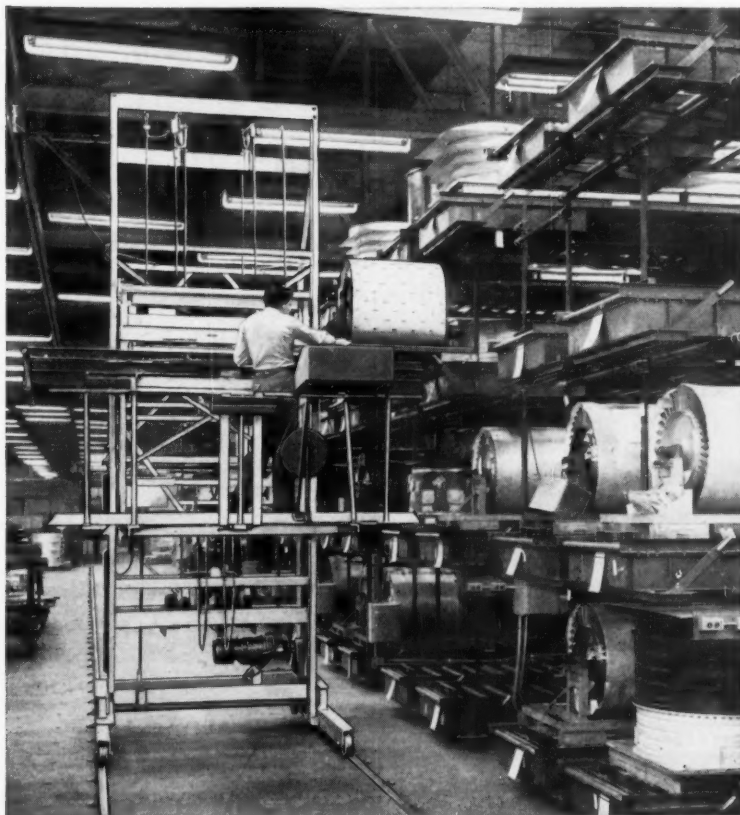
These transfer cars take the palletized assemblies from inspection area and move them on tracks to the appropriate tier. The operator raises and transfers the pallet to the selected stock tier. Another Economy transfer car on the other side of the storage tier removes pallets to the final assembly line. This system guarantees inventory turnover on a first-in first-out basis.

The system operates with smooth effortless automation and with no danger of damage to the fabricated assemblies. This Economy transfer car system with the resulting reduction of operating personnel and the complete utilization of inventory space is a unique factor in cost saving operations.

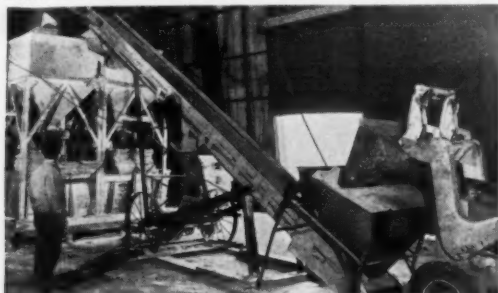
For over 50 years Economy has been engineering and building special lifting and Hi-Reach service machines. Our engineers have constantly improved the mechanical construction to obtain maximum strength and safety. **—What is your problem?—**

Write **E. W. McDonnell ECONOMY ENGINEERING CO., 4524 W. Lake St., Chicago 24, Ill.**

New York Office—342 Madison Ave., New York 17, N. Y.



Circle No. 55 on Reader Service Card for more information



For moving ABRASIVE MATERIALS find out about Farquhar Trough Conveyors with impregnated hardwood bearings



FARQUHAR Trough Conveyors with impregnated hardwood bearings are built especially to move loose abrasive and corrosive materials under the dirtiest and roughest working conditions. The high abrasion resistance of these impregnated hardwood bearings results from a combination of the relatively softer impregnated hardwood, and the continuously self-generating lubricating film which it provides. Farquhar Trough Conveyors equipped with these special bearings operate efficiently long after the most expensive metal bearings would fail.

Send for information on Farquhar Trough Conveyors with impregnated hardwood bearings today.

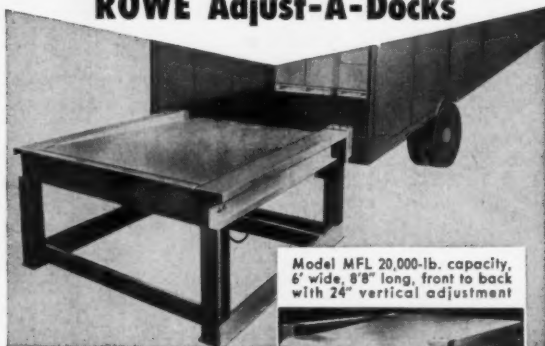


A. B. FARQUHAR DIVISION

The Oliver Corporation
Conveyor Dept. Y-06, York, Pa.
Factory Branch: 618 W. Elm St., Chicago 10, Ill.

POWER BELT AND GRAVITY CONVEYORS

Now...Two NEW Low-Cost Packaged ROWE Adjust-A-Docks



Model MFL 20,000-lb. capacity,
6' wide, 8'8" long, front to back
with 24" vertical adjustment

... That Cost Less To Install And Maintain

Now it is possible to obtain the cost-saving benefits from permanent hydraulic dock leveling devices without costly installation charges. These new Rowe models, with capacities of 10,000 and 20,000 lbs., are completely assembled ready for placement in front of an existing dock.

A Few Outstanding Features

- Floating action
- Rugged construction
- Push button control
- Complete self-contained hydraulic power unit

See it demonstrated in Booth 301
Materials Handling Convention, Cleveland

84 Models To Meet Your Requirements

ROWE METHODS, INC.

2534-C Detroit Ave. • Cleveland 13, Ohio

Circle 159 on Reader Service Card for more information

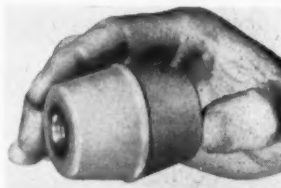
NEW EQUIPMENT SECTION

Polyester Insulator

A new insulator, with high mechanical and electrical strength, for traveling crane trolley feeder conductors, is being manufactured by Red Seal Electric Company.

Called the 504 insulator, the unit is being used to replace hardwood conductor posts on trolley feeder runways. It is designed for service up to 1000 volts. It is made of polyester, reinforced with fiberglass, and has two tapped inserts for easy installation.

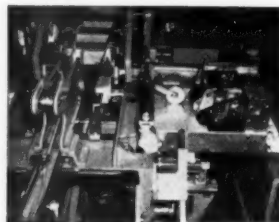
Circle 387 for more information



Bundle Printer

Claimed to be equally effective on all automatic bundling machines, the Industrial Marking Equipment Company has recently developed a new marking, dating and coding attachment. The unit is automatic in operation, and applies directly to the bundling machine as required. An aniline dye process accomplishes the imprinting with clearly legible, easily changed rubber type, inked from a self contained vertical reservoir. It is claimed the unit is adaptable to specific requirements.

Circle 388 for more information



Safety Chain Block

The Shaw-Box Crane & Hoist Division of Manning, Maxwell & Moore now markets a new series of light-weight spark resistant and corrosion resistant aluminum chain blocks and trolleys in 1/4, 1/2, 1, and 2 ton capacities. These new chain blocks are ideal for use in hazardous atmospheres or places where safety and resistance to corrosion are of vital importance. The new models differ only in external working parts from the 'Budgit' aluminum chain block.

Circle 389 for more information



Transistorized Microphone



Designed specifically for two-way mobile communications in public safety, industrial, and land transportation radio service, is RCA's transistorized microphone featuring built-in preamplifier for complete interchangeability with carbon mikes. The new microphone provides improved intelligibility, voice quality, and

reliability. The microphone measures 6 1/2 inches long, 2 11/32 inches wide, and 1 11/16 inches deep, and weighs nine ounces.

Circle 390 for more information

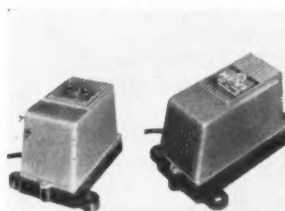
Colored Stitching Wire

Stitching wire finished in twelve colorful shades is now being manufactured by Acme Steel Co. Called Colorstitch, the stitching wire can be used as regular flat stitching wire, on all standard stitching machines. It is conventional type stitching with a vinyl paint finish bonded to the galvanized surface of the wire.

The colored finish is resistant to chipping and peeling, and will be available in 10 pound coils .103 inches wide and .020 inches thick.

Circle 391 for more information

Permanent Magnetic Vibrators



A unit vibrator which operates at 3600 vibrations per minute and needs no rectifiers has been developed by Eriez Manufacturing Company. These units impart a rhythmic action in conveying dry,

lumpy or powered material to bins or hoppers. Called the Eriez HI-VI Unit Vibrator, the unit sets up a rapid "double diaphragming" or kneading action in the bin wall. This action prevents sticking, arching or bridging of materials, thereby maintaining a continuous, even supply of material flow through the bin outlet. Two models of the vibrators are now available. These are Model EU 20, designed for bins of 7 cubic foot capacity and up to 1/16 inch thickness of bin wall, and Model EU 30 designed for bins of 20 cubic foot capacity and up to 3/16 inch thickness of bin wall.

Circle 392 for more information

101 MONEY SAVING IDEAS!

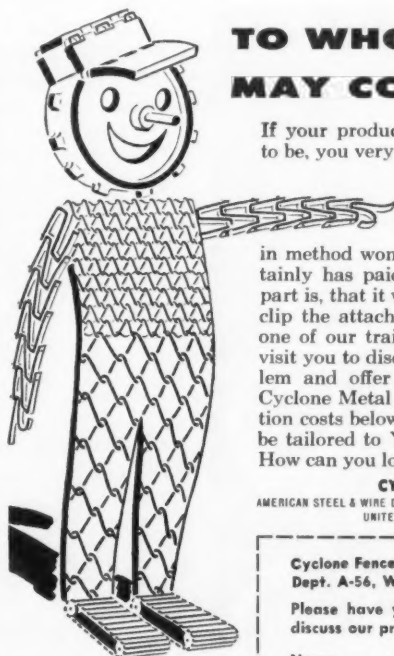
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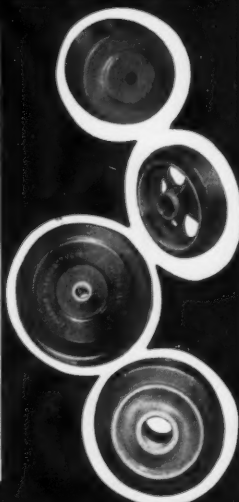
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NEW EQUIPMENT SECTION

Scrap Metal Baler

An automatic scrap metal baler, called the Scrap-O-Matic, is manufactured by the Balemaster Division of the East Chicago Machine Tool Corporation. It can be operated by one man loading scrap into

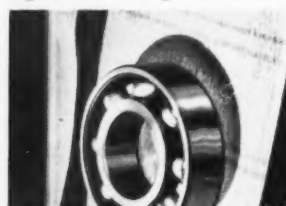


the loading chamber as it accumulates. In a few minutes, this scrap material is compressed into an easy-to-handle compact briquette. The unit occupies only 12 feet x 3½ inches of floor space, and can be located at a plant's source of scrap or trimmings, thus cutting labor costs for moving the scrap. The machine weighs 4000 pounds and requires no pit or anchoring.

Circle 393 for more information

Extra-Strong Greaseproof Wrap

A new Mylar-laminated grease proof wrap is now being produced by Angier Corp. Called Super Indu-wrap, it is made for greaseproof packaging of metal parts. A polyester film product, it is said to have strength and thermal stability qualities exceeding by far either acetate or polyethylene, two films most frequently used in Grade A wraps. The product comes in heavy and medium grades in 36-inch rolls or sheets cut to the user's requirements. It can also be made to order in flat form.



Circle 394 for more information

Mobile Microphones

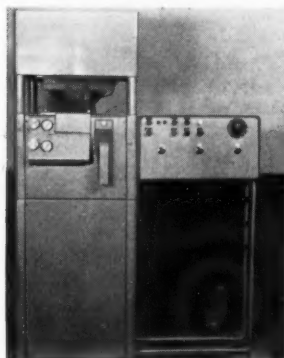
A transistorized dynamic microphone for mobile radio applications has been developed by Motorola. It is claimed that the new accessory provides transmission quality comparable to that of the base station. It features a specially-designed dynamic element with a built-in transistor preamplifier which boosts the dynamic output of the microphone to conventional transmitter input level. This technique is said to over-



come the noise pickup problem inherent in mobile radios. Currently offered as a replacement item or an optional accessory with Motorola equipment, the device is directly interchangeable with Motorola carbon microphones now in use.

Circle 395 for more information

Automotive Parts Counter



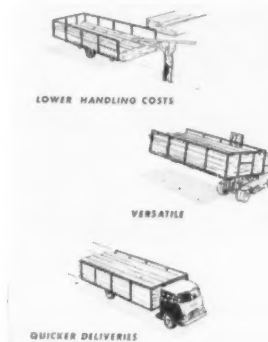
An automatic unit for counting small parts such as screws, nuts, screw machine parts, plastic parts, etc. in predetermined quantity lots has been designed by the Pennsylvania Scale Company. Called the Model EC, it is said to be 100% accurate, fast, and labor saving. Size of the part to be counted determines

the maximum counting speed, with one operator being able to handle as many as 8 to 10 EC units. The unit, designed for semi-automatic operation, is loaded to the hopper by hand, and adjustments are made for counting according to the size of the part. The unit is then actuated and parts are counted automatically and discharged into a container. They are

then removed by an operator and packaged or stored. The machine is designed to handle a wide range of part shapes and sizes.

Circle 396 for more information

Portable Material Handling



A new material handling system is being manufactured by The Redi-Load Body and Pallet Company. The system was originally designed to reduce handling costs of lumber and other bulky building materials such as plywood and insulating board, but it is equally adaptable to handling many other materials and products.

The unit is of light-weight, rugged frame construction of square steel tube members welded together. The Redi-Load unit can be moved about the yard while being loaded, transported in several different ways, and offers quicker deliveries when needed. The company claims that substantial cost savings can be immediately effected with the installation of the system.

Circle 397 for more information

Fast, safe handling of 20 ton loads

—anywhere in your yard!



Put a Gar Wood 75BT truck crane in your yard and you'll benefit from—

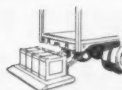
Multi-job mobility—The 75BT is exceptionally maneuverable, quickly moves from one yard area to another to load and unload trucks and cars; handle raw materials, scrap and coal; help maintenance crews on overhead work.

Big capacity—Handles up to 20-ton loads with safety... live boom hoist with 2 speeds delivers full power for both lifting and lowering... provides complete and accurate control of the boom during any cycle of operation.

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Circle 92 on Reader Service Card for more information

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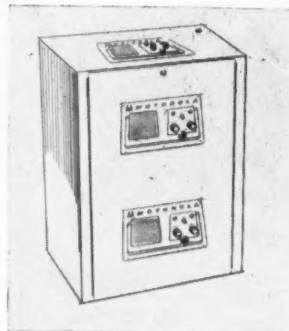
Circle 124 on Reader Service Card for more information

188

NEW EQUIPMENT SECTION

Transmitter-Receiver

Motorola now offers fixed FM 2 way radio equipment in the 25-54 or 144-174 megacycle band in addition to its standard line of FM equipment. Called the "Compa-Station", the compact unit includes a 60 watt transmitter and the Motorola Sensicon "G" receiver. It features a removable control panel with built-in speaker which can be placed in any one of three positions on the cabinet for versatility in installation.



Circle 398 for more information

Chemically-Inert Wrap

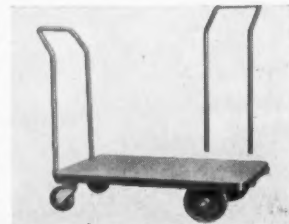
A film made by a newly-developed process that imparts qualities superior to other films is available from Shamban Engineering Co. Called Califilm, the product is tough, non-porous, and in its natural state, is clear, colorless and transparent. Continuous re-use or aging does not embrittle Califilm, and it can't be damaged by banding or tying. The film assures positive insulation for resistors, solenoids, condensers, transformers, motors and generators, claims the company.



Circle 399 for more information

Light-Weight Platform Trucks

The Milwaukee Truck Company now manufactures a new line of medium duty, all steel platform trucks, combining light weight, maneuverability and rugged construction. The trucks are designed to do hundreds of material handling jobs quickly and efficiently, says the company. Four different models are offered for varying load and application requirements. Deck sizes are 18 x 32 inches, 24 x 48 inches, and 24 x 36 inches. Load capacities range from 500 pounds to 750 pounds.



Circle 400 for more information

FLOW

Wheel Flange Lubricator



Time and money can be saved on locomotive wheel maintenance with the Transall lubricator, say the manufacturer, Transall, Incorporated. The lubricating unit consists of a lubricating stick and flange turner. It has no moving parts and can be mounted in any suitable location that moves with the lateral and vertical motion of the wheels. It is claimed that the lubricator not only prolongs the life of the flanges, but of the rails, switches, frogs, and crossovers as well.

Circle 401 for more information

Pneumatically Powered Sealer

Vertrod Corp. has developed impulse trim sealing in lengths greater than 20 inches. The development opens new possibilities for the fabrication of Polyethylene film where trim sealing is required. Called the Model #42PC, it is built to meet the standards of all Vertrod Heat Sealing Machinery.

Circle 402 for more information

Truck with Hydraulic Shifting Ballast



A new series of heavy duty fork trucks with capacities from 8000 to 20,000 pounds is being produced by Ericson Power Lift Trucks, Inc. Featuring hydraulic shifting ballast, the trucks have up to 4000 pounds of regular ballast on tracks on each side of the truck. When positive traction is needed on ice, snow or mud (when the truck is without load) the shifting ballast can be moved forward for extra weight on the drive wheels—from the driver's seat with a hydraulic control lever. Known as Models F-8R, F-10R, F-12R, F-16R and F-20R, the series of trucks is completely power operated: with power steering; power brakes; extra large, dual tires on front drive wheels and also on rear, trunnion-mounted steering wheels.

Circle 403 for more information

Barrier Packaging Material

Nichols Paper Products Company is producing Barrier packaging material types 1, 11, and 111 which fully meet Government specifications MIL-B-130A. It is claimed that the materials possess unusual cushion-

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NEW EQUIPMENT SECTION

ing qualities which make them preferable for many applications in which the product to be packaged requires protection against shock and abrasion.

Circle 404 for more information

Assembly Line Taping



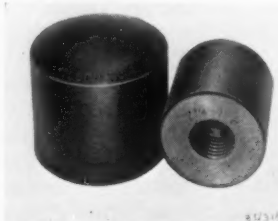
A high speed electric machine capable of bundling or reinforcing an assembly line basis is now available from the Permacel Tape Corporation. Called the Permacel 401, the machine can apply in excess of 700

tapes an hour, while at the same time automatically compressing the material to be taped. The unit is especially suited for closing and reinforcing overlap slotted containers; bundling prefabricated finished woods, milled lumber; sheet metal and extruded parts; bundling hardwood flooring; and bundling of rods, tubing, cores, and dowels. Packages up to 12 inches by 12 inches with no limit on length can be handled

by the 401. Dimensions of the 401 are 70 inches high, 57 inches wide, and 40 inches deep. The entire unit weighs approximately 900 pounds.

Circle 405 for more information

Molded Bumpers



Stilson Tool, Inc. has designed contour molded, neoprene bumpers which are engineered for use on air and hydraulic cylinder shafts as ejectors—lifters and kickers, and also as shock absorb-

ing rests and stops for elevating or horizontal traveling mechanisms. The core is of cold rolled steel, drilled and tapped to size. The bumpers can be used in any manufacturing operation requiring movement limitation of automated equipment, or as actuating devices, or contacts to lesson noise, wear, and injury to parts or equipment.

Circle 406 for more information

Inhibitor with "Throwing Power"

A new vapor pressure corrosion inhibitor called Akrode is announced by the Baird Chemical Corp. It is claimed to be more effective than most products be-

"PALITON"

One Large Capacity—
4,600 lb.—at the
Same Low Price



Fork Lengths 36"-42"-48"
Widths 20½" and 27"
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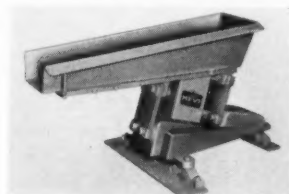
NEW YORK OFFICE: **PALITON, Inc.,** 40 West 29th St. • New York 1, N.Y. • Murray Hill 5-9323

Circle No. 138 on Reader Service Card for more information

cause of its greater volatility and additional "throwing power". Among the uses of Akrode are the prevention of corrosion on tin cans used for packaging latex paints, preventing of rusting of razor blades, and the prevention of corrosion in the packaging and storage of machinery, tools, and similar articles made of ferrous metals.

Circle 407 for more information

Vibratory Feeder

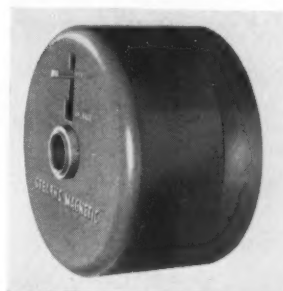


Production of a new type vibratory feeder that challenges all existing standards of efficiency, durability and economy in that exacting field is announced by Eriez Manufacturing Company. Called

the Eriez HI-VI Electri-Permanent Magnetic Vibratory Feeder, the new units operate directly on available 115 volt or 230 volt AC, without a rectifier, and have an exclusive, simple electro-permanent magnetic drive that delivers higher vibratory output with lower input, and entirely eliminates the need for bearings and friction-producing parts. It is designed for maximum adaptability in such varied material handling operations as feeding, mixing, drying, cooling, packing, conveying, and spreading.

Circle 408 for more information

Solenoid Operated Disc Brake

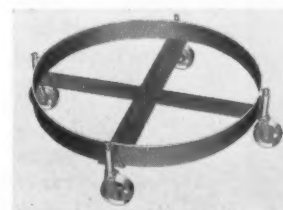


the brake, permitting drives off both ends of the shaft.

Stearns Magnetic, Inc. has introduced a new through-shaft magnetic brake incorporating the advantages of solenoid operation. Called the HT-50 Through Shaft, the unit is designed so that the motor shaft extends right through the center and out beyond the end of

Circle 409 for more information

Vertical Drum Handling



assured by the cross members which give added strength for load capacities up to 700 pounds. Four 3-inch

The new Morse Drum Dolly No. 13 is ideally designed for vertical handling of open end drums. Safety is assured by the deep lip which holds the drum securely in place. Durability is as-

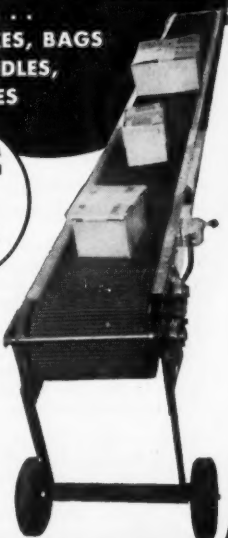
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MAY, 1956

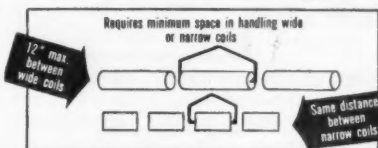
Handling Coil Stock?

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C-F LIFTER
ADVANTAGES

- 1 Lifter handles wide range of coil sizes
- Requires minimum of only 10" to 12" between piles — saves storage room
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- Positive grip on coil — no damage to material

• C-F Coil Lifters are saving time and labor in many plants and warehouses because they can pick up, carry and set down a coil of steel faster and safer than any other method. Infinite jaw



openings permit handling a very wide range of coil widths... carrying legs open fast, stay open until operator closes them on coil. Narrow legs require minimum space between piles — a space saving advantage. Made in motorized models for crane cab or pendant operation as well as manual types with chain wheel, in capacities from 3 tons up. Powered Rotating Heads available. Opening ranges to suit your requirements. Write for illustrated Bulletin.

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NEW EQUIPMENT SECTION

diameter steel swivel casters make the dolly easy to get into small areas. The Morse Drum Dolly is 24 in. in diameter, with an overall height of 6½ inches, and is built of 2½ in. steel for long life.

Circle 410 for more information

Saves Time, Money and Space



framework, machine bases, electrical mountings, etc. It has almost universal application because the Flex-

A new way to save time, money and space in solving storage and construction problems is now offered by the FlexAngle Corp., formerly Flowstrut Corp. The new system, called the Flexangle Universal Slotted Angle System makes the most of space, money and materials for storage racks, shelving, bar stock racks, pallet racks, maintenance platforms, building

angle units require no drilling, no welding, are pre-measured, pre-painted, save up to 98 per cent storage space and are completely re-usable, the company asserts.

Circle 411 for more information

Four-Wheel Trolley



horizontal directions of the system can be changed, thus increasing the flexibility of the conveyor. The system is also extremely useful in operations where manufacturing or packing delays prevent the use of constantly moving chain conveyor.

Circle 412 for more information

A new, non-powered overhead trolley conveyor which can be adapted easily for use in narrow aisles, has been added to the line of overhead conveyors manufactured by Rapistan-Keystone. Feature of the new conveyor is a four-wheel trolley which is hand-pushed on a monorail. Switches and track bends are available so

GOOD-BYE PALLETS!
make way for the

VERT-O-MATIC

**AUTOMATIC
NON-HYDRAULIC
SELF-ADJUSTING**

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Light Electro Magnets



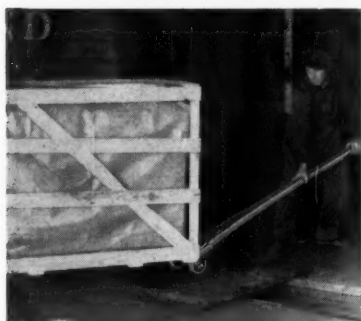
A new series of light magnets are offered by F. W. Shrader Co. as standard equipment for handling light scrap, such as sheet cuttings, cans, automobile bodies, etc. Called Pancake Magnets, type LA is offered as standard equipment. Available in sizes 38, 42, 47, 50, 60, and 78 inches outside diameter, these magnets weigh 1400 to 7800 pounds, complete with chains. In addition to new series LA magnets, series SA, DA, and EDA Circular Lifting Magnets have been considerably improved. Equipped with latest design aluminum coils, power of these magnets has been increased and weight reduced.

Circle 413 for more information

Dockboard for Uneven Carrier Beds

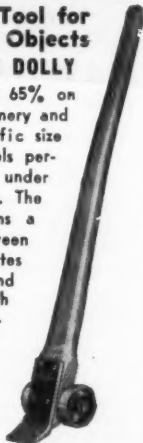
The Kelley Company, manufacturers of HI-LO Automatic Dockboards has added a tilt adjuster to all models. This new feature automatically compensates for lateral height changes in carrier beds caused by uneven drives, weak truck springs or unbalanced loads.

Circle 414 for more information



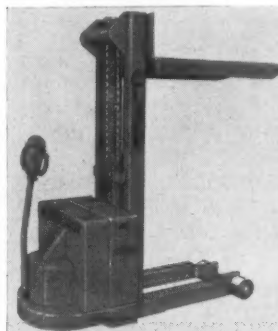
A Low-Cost Tool for Moving Heavy Objects THE MICRO LEVER DOLLY

Cuts moving time up to 65% on large cases, crates, machinery and bulky items. The scientific size and position of the wheels permit the lift blade to pry under objects flat to the floor. The wheel position also gains a high leverage ratio between power and load. Eliminates the danger of tip-ups and high falls. Four sizes, with a choice of metal or rubber wheels. See your local distributor or write:



MICRON, INC., Dept. F., Bettendorf, Ia.
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MAY, 1956

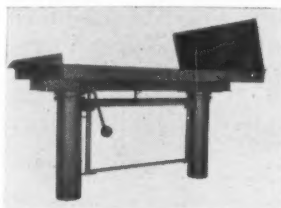
Truck Platform



A new Hi-Lift Platform truck which features a lifting height of 51½ through 70½ inches is the latest edition to the Clark Equipment Company's Powrworker line. Easy maintenance has been designed into the Hi-Lift platform. The power head and hydraulic system are exposed in two minutes, while the complete unit can be removed in 17 minutes and the drive tire can be replaced in 12 minutes.

Circle 415 for more information

Cuts Loading Time



A new two post, high speed, hydraulic platform lift that safely cuts loading time of trucks and railroad cars is offered by Field Engineering Products Co. The platform lift, called the Two-Post

Load-O-Matic, automatically goes to the level of any



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	Yes	No
Do they start and roll easily?	<input type="checkbox"/>	<input type="checkbox"/>
Are parts quickly, easily replaced?	<input type="checkbox"/>	<input type="checkbox"/>
Do they withstand years of abuse?	<input type="checkbox"/>	<input type="checkbox"/>
Are they designed for YOUR job?	<input type="checkbox"/>	<input type="checkbox"/>

Just one "no" in this check chart for "Quality Design and Construction means you're not getting the economies offered by Nutting trucks. Dependability, minimum maintenance and ease of operation are *always* the result of QDC. And QDC is the result of 65 years experience in the manufacture of floor trucks!

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Visit Nutting Booth 513-Material Handling Exposition
Public Auditorium-Cleveland-June 5-8

For all the facts call your Nutting representative . . . he's listed under "Trucks" or "Casters" in the yellow pages. Or write direct for the Junior Catalog.



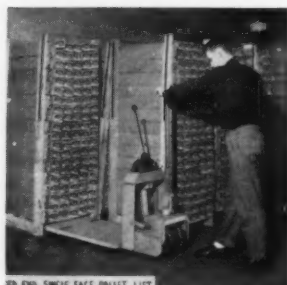

Circle No. 137 on Reader Service Card for more information

NEW EQUIPMENT SECTION

truck, bridges the gap between truck and platform, and stops automatically at the exact truck level. After the load has been deposited on the truck, the Load-O-Matic lift returns automatically to the loading dock. The loading dock model has a 30 inch stroke and will go automatically above or below deck to reach any truck. Ground level model has a 60 inch stroke and travels automatically to any truck level.

Circle 416 for more information

Cuts Cost More Than 50 Percent



200 END SINGLE FACE PALLET LIFT

Total investment in material handling can now be reduced over one-half by using a newly-developed hand lift truck manufactured by Market Forge Co. The new model makes it possible to employ less expensive skids or pallets resulting in a greater reduction of initial investment, asserts the company.

Circle 417 for more information

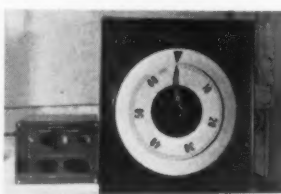
Highly Maneuverable Industrial Truck



Lamson Mobilift Corporation's new highly maneuverable 2000 pound capacity truck features powered directional controls mounted on the steering column within easy reach of the operator's fingertips while both hands remain on the wheel. Called the B-224, the Mobilift turns within a radius of 67 inches, can make a right angle turn in an aisle only 79 3/4 inches wide plus load size. The truck is 40 1/4 inches wide and 67 3/8 inches long less forks. Powered with a 32 HP Hercules engine, the truck operates up to 11.5 mph, lift speed loaded is 58 FPM. Double acting hydraulic cylinders control tilt forward 3 degrees, back 10 degrees.

Circle 418 for more information

New Type Trailer Scale



Highway truckers will find it easier to meet highway limitations on axel and gross weight, as well as to keep every load close to 100 percent payload, if they use a new type

For Chain Drive Users

Yes sir! With over 1200 sizes to choose from, in all types, and more than 100,000 to draw on—your special sprocket is probably stock at Cullman.

What's more, complete chain drives are available "Off the Shelf" in all pitches, in different speed ratios.

Save time and cut costs on your next chain drive need. Specify stock—Cullman, that is.

Inquiries invited for specials in any type, material or quantity. For full particulars write for Catalog No. 51, or see your local Cullman Distributor.

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STOCK SPROCKETS

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REPRESENTATIVES AND DISTRIBUTORS
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PRINCIPAL CITIES

CULLMAN WHEEL COMPANY • 1335 ALTGELD STREET • CHICAGO 14, ILLINOIS

Circle No. 43 on Reader Service Card for more information

101 MONEY SAVING IDEAS!

The June issue of FLOW will feature exciting material handling case histories covering all types of industrial and commercial operations . . .

Other editorial features in the June issue will tie in with the Material Handling Institute's Exposition of 1956 to be held in Cleveland June 5-8, 1956.

Readers who plan to attend the Exposition can use the June issue as a guide to the location of all exhibits and technical programs.

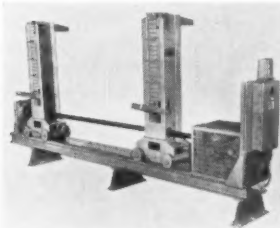
The thousands of readers who cannot attend the Exposition will be able to read about the many new developments presented there . . . as well as the valuable "Money Saving Ideas".

P.S. We will mail the June issue of FLOW about May 25th to make sure readers receive their copies before Exposition time.

trailer scale says the Baldwin-Lima-Hamilton Corporation, manufacturer. The scale is intended primarily for use at loading docks of terminals operated by common carriers. The scale has no moving parts under the weighing platform; weight is measured by eight Baldwin SR-4 load cells, two of which support each of the four platforms. Weighing accuracy of the scale is within 0.05 percent of load above 30,000 pounds and within 150 pounds up to this weight. The scale is unaffected by temperature variations.

Circle 419 for more information

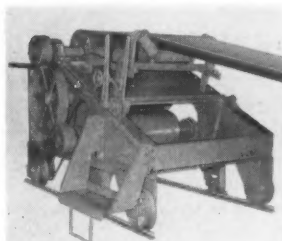
Unloads to Tote Box



A machine, different from the usual type of unit manufactured by Feedall, Inc., unloads pieces of bar or tubing from a production machine to a high tote box instead of automatically feeding parts to a production machine. Feedall Bar Unloader has one stationary tower and one movable elevator so that it can be adjusted to handle pieces from 3 feet to 12 feet in length, and from 1½ inches to 3 inches in diameter, at a variable rate of speed. Power is furnished by a ½ H.P. 220/440 Volt 3-phase motor operating through a square shaft which motivates both elevating conveyors.

Circle 420 for more information

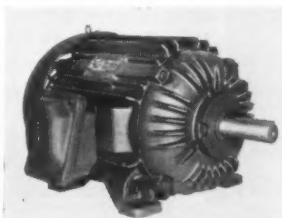
Belt Conveyor Tripper



A self-propelled unit, it has manually-operated friction drive which allows travel against and with direction of belt travel. Other features include heavy guage steel unit construction, Sealmaster main bearings and choice of left hand or right hand operation.

Circle 421 for more information

New Synchronous Motor



A basically new synchronous motor for general industrial use is reported by Allis-Chalmers Manufacturing Co. Called the Synchronous motor, it is available in ratings from ¼ to 40 horse-

Safe DRUM Handling



TRAY-HART DRUM CARRIER

- ▶ Alignment compensator automatically places drums into gripping position.
- ▶ Carrier loads over drums.
- ▶ Gravity action causes gripping shoes to securely hold load.
- ▶ Release can only be effected by application of hydraulic pressure.
- ▶ Standard models handle standard 55-gallon drums in diameters from 22¾" to 24¾", and permit 6" variation in height in same load.
- ▶ Special types available for Monorail, Crane, and other applications.

TRAY-HART CYLINDER CARRIERS

- All sizes and types of cylinders handled with ease.
- Quantity according to lift truck capacity.
- Write for complete information

Manufactured by

WALZ & KRENZER, Inc.

22 Flint Street, Rochester 8, N. Y.

Circle No. 188 on Reader Service Card
MAY, 1956

KEYED TO PRODUCTION!

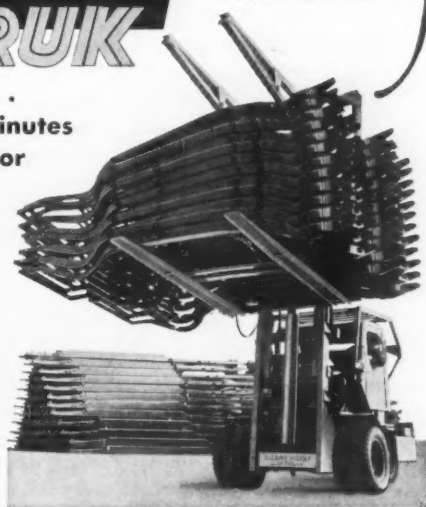
SILENT HOIST LIFTRUK

"72 frames per load . . .
three lifts every four minutes
. . . proves our needs for
additional LIFTRUKS"

The SILENT HOIST Heavy-Duty Fork LIFTRUK so rapidly stepped up the production and movement of material, over past handling methods, that this Plant Manager (quoted above), was equally quick to anticipate fleet LIFTRUK operations in their plant. *Another example that LIFTRUK pays its way!*

Can we aid in solving
your problems?
Send for Bulletin #77.

3-5-6-7½-8
10-12-15
Ton Capacities
FLUID DRIVE
POWER STEERING



SILENT HOIST & CRANE CO.

Pioneer Mfrs. of Heavy Duty Materials-Handling Equipment
888 63rd Street, Brooklyn 20, N. Y.

Circle No. 167 on Reader Service Card for more information

NEW EQUIPMENT SECTION

power, is built on standard motor frames and enclosures, and uses a simple die-cast rotor. The motor requires no brushes, slip rings or windings on the rotor, separate source or direct current excitation, or special starting equipment as is the case with standard synchronous motors. Having a high (175 to 200 percent) pull-out torque, the motor remains in synchronism regardless of load or line voltage fluctuations.

Circle 422 for more information

Automatic Pulpwood Loader and Unloader



The Canadian Pulp and Paper Association has developed a logging machine which will automatically load and unload three-and-a-half tons of pulpwood and transport it through the woods over the roughest kind of terrain. Called the "Pulpwood Logger", the machine was developed by the Association's Woodlands Section as part of an organized industry program to fulfill specialized equipment requirements. It is being manufactured by Clark Equipment Co. under a licensing arrangement. The logger has a four wheel drive, four wheel brakes and both front and rear wheel steering. It will travel up to speeds of 30 miles per hour when road conditions permit, and is powered by a 100 horsepower engine.

Circle 423 for more information

Portable Elevating Tables



The Hamilton Tool Company reports that its "Portelvator (R)" line has undergone extensive changes and additions. Lift capacities of the Style "O" and Style "A" tables have been increased from 1000 pounds to 1500 pounds, and from 2000 pounds to 2500 pounds respectively, and designations have been changed to Portelvator 15 and Portelvator 25. Other units of the line include Portelvator 35, Portelvator 50, and Portelvator 50-6. Another feature of these two tables is the arrangement of the lift mechanism for side operation. This permits easy and convenient operation even when the table is loaded with long, overhanging sheets.

Circle 424 for more information

Has Great Work Capacity

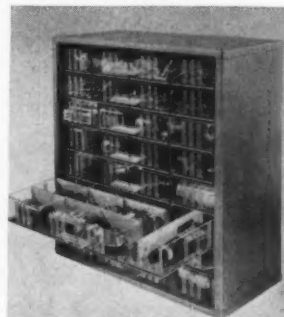


The largest production model shovel-crane yet produced by Link-Belt Speeder Corporation has been added to the line manufactured by the company. Called the K-608, the 3 cubic yard shovel-crane is said to have great work capacity for a rig in its class. It is convertible to shovel, crane, drag-

line, clamshell and piledriver attachments. The machine is designed for 3-yard shovel operation with rated crane lifting capacity of 75 tons at 12 foot radius. It has a ground clearance of 18 inches on the 7 roller frame model and 24 inches on the 9 roller frame type.

Circle 425 for more information

Visible-Filing Cabinet

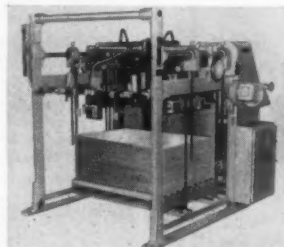


The Akro Mils, Inc. offers a new visible-filing cabinet which keeps track of hundreds of little parts needed in the office, factory, shop, laboratory, hospital, store or to make repairs, but which are hard to keep track of. These cabinets are durable and compact and save the user time, space, sim-

plify inventory taking and make a good looking addition asserts the company. Each drawer is 1 7/16 inches high, 2 7/8 inches wide and 5 7/8 inches long. The welded steel frame measures 14 inches high, 6 inches deep, and 12 1/2 inches wide. In addition to stacking, cabinets stand solidly on any level surface or hang on the wall.

Circle 426 for more information

Metal Sheet Feeder



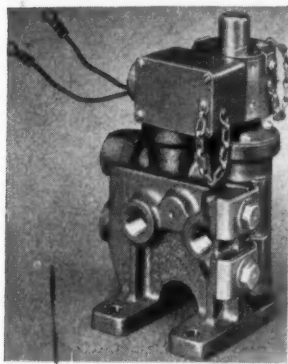
A new high speed metal sheet feeder which feeds up to 150 sheets per minute to such processing equipment as presses, coaters, slitters, shears, buffers, etc. is being produced by the Dexter Folder Co. The feeder

has a 9000 pound capacity elevator, in contrast with

top capacity of 6000 pounds for previous machines. The new feeder may be equipped for either side loading and a powered, fast lowering elevator reduces reloading time to approximately 20 seconds. Sheets handled range in thickness from 38 to 20 ga and in size from 19 x 19 inches to 44 x 48 inches.

Circle 428 for more information

4-Way Solenoid Valve



Designed to conform to JIC specifications, a new 4-way solenoid valve is produced for the control of air, water and light oil to 150 P.S.I. by Barksdale Valves. This new valve also has proven valuable features of the standard Crescent valves. Pressure drop is greatly reduced because the free port area approximates the

pipe area. The valve can be converted to any practical current or voltage, AC or DC, by a simple coil change says the manufacturer. Coil burnout has been eliminated by using a short stroke, pilot operation and a generous power margin.

Circle 429 for more information

Eliminates Tire Trouble

Flat tires on material handling equipment can be eliminated with Notat tires, says the Notat Tire Company. Notats are neither solid nor pneumatic—they're laminated. This means that Notats can't go flat like pneumatics because there's no air chamber. Unlike solid tires, Notats will "give" to prevent jarring of loads and damage to equipment. At in-plant speeds, Notats ride and steer like pneumatic tires, and the molded-together pads grip instead of slip, giving faster starting and faster stopping.

Circle 430 for more information

Cost-Saving Possibilities

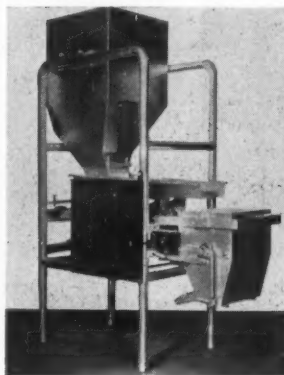


Material handling in warehousing and order picking operations, motor freight and railway terminals, and in certain types of production line assembly work, Nutting Tow-Line Trucks, powered

by an under-floor conveyor, offer tremendous savings possibilities, says the manufacturer, Nutting Truck and Caster Company.

Circle 431 for more information

Weigh Feeding Unit

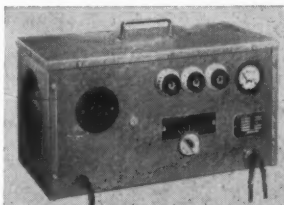


Glengarry Processes, Inc., designer and builder of many types of automatic weighing equipment for filling, batching and proportioning, is introducing its new model called Heavi-Weigh. The machine is used for net weighing a wide variety of dry materials, over a weight range of 5 to 100 pounds. Its cost and simplicity of operation make it an

ideal unit for many applications, says the manufacturer. It can be used from simple filling of containers to the more complex, automatic batching operations for a series of machines and electric control panels.

Circle 432 for more information

Portable Industrial Battery Chargers



Industrial battery chargers that are said to be compact and portable have been developed by the Baldor Electric Co. The company's line includes 20 ampere types for 24 volt and 36 volt lead

acid batteries and 60 ampere type for 12 volt lead acid or 10 cell nickel alkaline batteries. The chargers are designed for continuous every night service and may be plugged into a 115 volt electrical outlet.

Circle 433 for more information

Log Loader

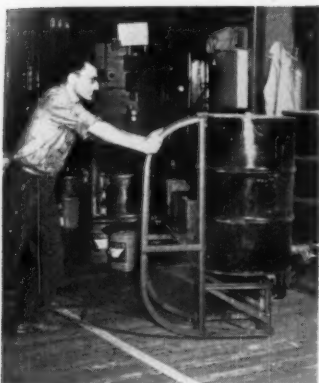


A new extra-heavy duty loader for mounting on both new or previous model Caterpillar D8 tractors, capable of handling logs to 42,000 pounds with a lift of 14 feet, is now in production by American Tractor Equipment Corp. Accommodating logs to 7 feet 3

inches in diameter, the ATECO loader is essentially a tilting fork-lift design with two forged hydraulically-powered grab arms to secure the log or logs in position. Fork tilt-back is 10 degrees to 15 degrees in lift position, 50 degrees to 60 degrees in discharge position. It provides accurate positioning of logs on trucks, in gondolas or cold decks.

Circle 434 for more information

Simple, Safe and Efficient Drum Handling



WHEELING 55 gal. drum of enamel from storage to finishing dept.



FILLING 5-gallon bucket required with automatic spray equipment.



UNLOADING drum, worker loosens hook and safety catch.

An easy system has converted an awkward handling job into efficient operation at the R. E. Dietz Co., of Syracuse, N. Y.

This plant formerly finished lanterns in bright tin. But shortages of this metal made it necessary to substitute a synthetic enamel as a finish. It then became essential to handle drums quickly, easily, and safely.

The enamel is stored in 55-gallon drums in a fireproof warehouse. Handling drums from storage through emptying and back is entirely by a rocker-type drum truck. To secure the drum, the truck is inverted and the safety catch on the nose piece slipped under the chime. A long, threaded hook is engaged over the opposite chime and tightened to lock

the drum in place. An angle iron plate screws down to fit the bottom of the drum. The truck is then easily wheeled to the finishing department.

Here, five-gallon buckets, needed for automatic sprayers, are filled.

When emptied, a drum is easily released from the truck.

Photos courtesy Morse Mfg. Co.

ASHWORTH **NEW OMNI-LEX BELT**
ECONOMICAL • FLEXIBLE

Let your production ride around corners on the new low cost OMNIFLEX belt. Short turning radius, light weight, easily installed and maintained.

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WRITE FOR ILLUSTRATED CATALOG OMF-56



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P5. We will mail the June issue of FLOW about May 25th to make sure readers receive their copies before Exposition time.

Circle No. 20 on Reader Service Card for more information

YOU GET 2 BRAKES on this economical hoist



Each brake on the 'Budgit' Electric Hoist is so powerful it can hold the full load alone. That means extra safety. The two brakes act together — stop lifting and lowering *fast* — save time when spotting loads. The 'Budgit' cuts hoisting time — lifts a 500-lb. load a foot in less than 2 seconds. It is ruggedly built from hook to hook to give long, trouble-free service. It costs only a few cents a day to operate.

Invest in a 'Budgit' Electric Hoist and you get a complete, portable lifting unit. No installation cost. Just hang up, plug in, and the hoist is ready for efficient service. Capacities: 1/4 to 2 tons. AC and DC models. Priced from \$139. Get full details from your "Shaw-Box" Distributor or ask us for Bulletin 391.



AN I-BEAM TROLLEY adds travel-ability to any hoist. All types available. Capacities: 1/4-ton up. Priced from \$18.50. Write for bulletin.

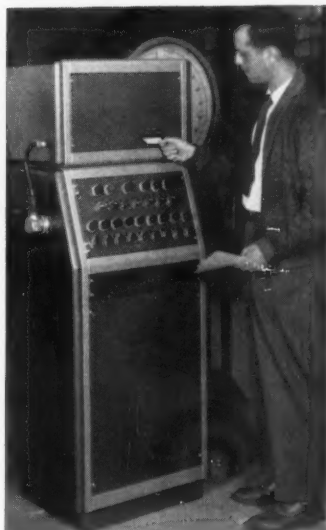


'Budgit' ELECTRIC HOISTS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "SHAW-BOX" and "LOAD LIFTER" Cranes, "BUDGIT" and "LOAD LIFTER" Hoists and other lifting specialties. Makers of "ASHCROFT" Gauges, "HANCOCK" Valves, "CONSOLIDATED" Safety and Relief Valves, "AMERICAN" and "AMERICAN-MICROSEN" Industrial Instruments, and Aircraft Products.

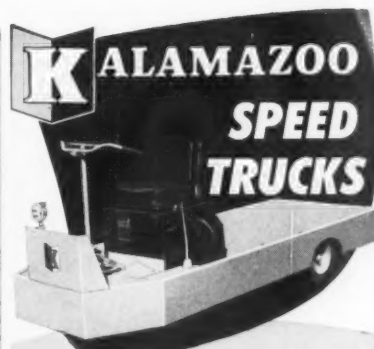
Circle No. 117 on Reader Service Card
MAY, 1956



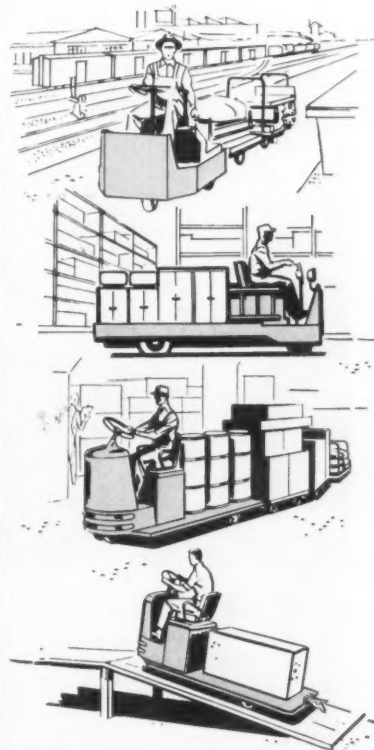
Electronic Weigh Batching System Works With Punched Cards

UNITING the speed and accuracy of electronics with commercially acceptable weighing units, an electronic weigh batching system has been perfected by The Hetzel Steel Form and Iron Co. Called the Helco-Matic Batchmaster, it is housed in a compact console, no larger than a standard filing cabinet, and will work in conjunction with a punched card system. The unit instantly and automatically selects and weighs out the precise amount of any number of materials. Combinations of material weights and selections are said to be unlimited and can be changed instantaneously. Where repetitive batches are required, the system provides for automatic recycling. The problem of compensating for moisture by weight is eliminated with a simple control which regulates the amount of moisture desired. A controlled, closed circuit practically eliminates the possibility of malfunction due to vibration, moisture, or dust.

Circle 435 on Reader Service Card



**... COST-CUTTING
PAYLOAD CAPACITY,
PULLING POWER, SPEED
AND HANDLING
EASE**



AVAILABLE IN GAS OR ELECTRIC MODELS

For the most economical and efficient solution to dozens of material handling jobs, follow the example of scores of plants and freight terminals throughout the country — use Kalamazoo Speed Trucks. Get all the facts — choose the type of power best suited to your needs. WRITE TODAY.

FOR OVER 73 YEARS SERVING INDUSTRY
AND RAILROADS ALL OVER THE WORLD

KALAMAZOO
MANUFACTURING COMPANY
1845 Reed St., Kalamazoo, Mich.

Circle No. 95 on Reader Service Card
199

"Sneak Preview" ...

information furnished on some industrial trucks which will be introduced at the M.H.I. exposition next month

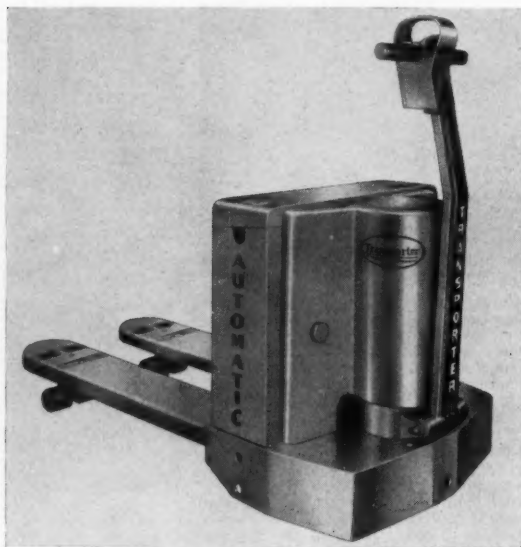


Clark Equipment Co.

A completely new "Premium" line of fork trucks—the Clarklift Line—will feature faster, more maneuverable overall operation; greater safety; more operator comfort; and easier maintenance. It includes a 12-volt electrical system, fully automatic transmission, emergency fuel tanks, and foam rubber seats. Combination lift-tilt controls operate in directions related to the motion desired—on a lever attached to the steering column. Other features include self-adjusting brakes; balanced, swing-up hood; solid tire models with drive and steer wheels of the same diameter; optional radiator screens for dusty operations; and all-purpose, deep-tapered forks. High flotation, pneumatic-tire models, designed for all-weather yard work; have more powerful engines and high underclearance. New uprights, designed to increase visibility, are roller mounted, nested, with inner members "I" beams for greater strength and rigidity. Lifting speeds are said to be

50% faster than on previous models. Attachment controls are on the dashboard, near the driver's right hand. A mechanical seat brake of the "dead-man" type applies immediately when the operator leaves his seat.

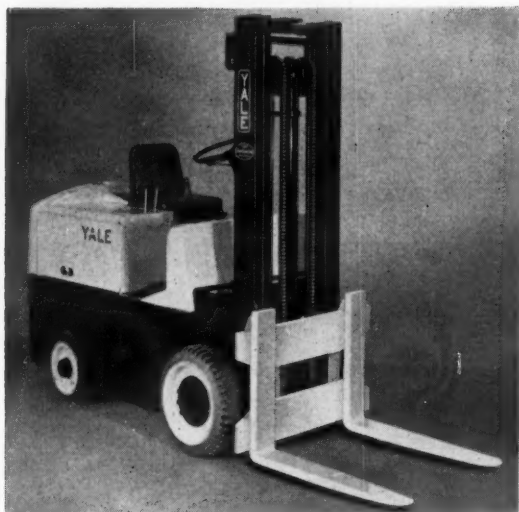
Circle 436 for more information



Automatic Transportation Co.

A complete line of operator-led, electric-driven industrial trucks is being introduced by Automatic. This all new Transporter series includes pallet models, high and low-lift platform trucks, high-lift suspended load type stackers and tractors. Among the new features of the line are a set of spring-loaded pawls that holds the unloaded pallet firmly while forks enter, thus saving time and eliminating pallet destruction; simple three point lubrication; ultra-modern design and 3-speed butterfly control.

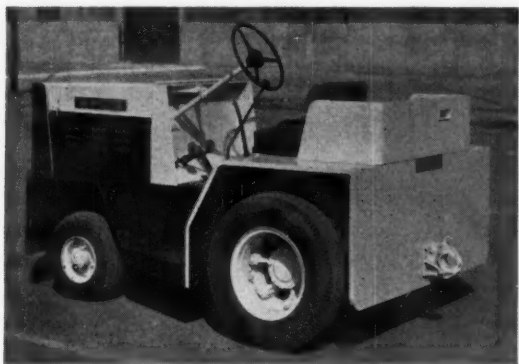
Circle 437 for more information



Yale & Towne Mfg. Co.

A powerful new Yale Torque Transmission is said to permit, for the first time, "inching" of a fork truck and the simultaneous fast lifting of loads and operation attachments. Other features include marked lower silhouette lines, a clear floorboard, waterproof instruments grouped in the lowered cowl and a recessed driver's seat. Incorporated into standard models of gas, LP gas, diesel and electric trucks, are field-tested features of self-adjusting brakes, roller mounted "open vision" upright construction, and the utilization of an anti-cavitation unloading valve to prevent possible formation of a void resulting in channel sway and loss of positive channel control.

Circle 438 for more information



The Mercury Manufacturing Co.

Completely re-designed 'Huskie' and 'Super-Huskie' models built to replace the present heavy duty tractors of the Mercury line have been developed. The "Huskie", designated as Models 930 and 940, will be available in two draw bar capacities, and will be rated at 3000 and 4000 pounds D.B.P. respectively. The 'Super-Huskie' Model 950 (illustrated) will also be available in two capacities, rated at 4000 and 5000 pounds D.B.P.

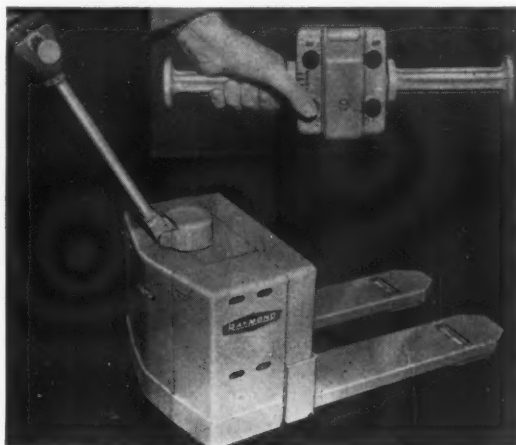
Circle 439 for more information



Lamson Mobilift Corp.

A new 2000-pound sit-down industrial truck called the Model B-224 is claimed to have the distinction of being the only 2000-pound, 24-inch load center capacity truck on the market with automatic transmission as standard equipment. In addition, it has fingertip directional control, twin disc fluid coupling and oversized industrial tires for greater stability and longer life. The company's latest safety attachment, an overload warning signal, will be demonstrated on another model.

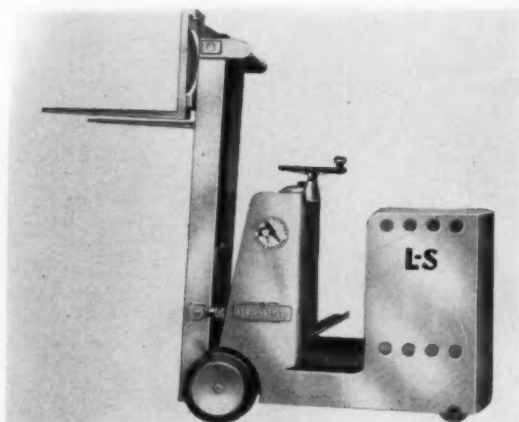
Circle 440 for more information



The Raymond Corp.

"A totally new idea in "Walkie" electric trucks, featuring compactness", is reported by The Raymond Corp. A unique power pack, consisting of four automotive type batteries, provides 24 volt operation with no resistance loss in second and third speeds. Other specifications of the "walkie" include three travel speeds; fingertip controls for travel, lift and lowering; easy maintenance; smooth pallet entry and lightweight construction. The initial model is designed for pallet handling and is offered in 4000 pound capacity.

Circle 441 for more information



Lewis-Shepard Products, Inc.

A new, improved version of Model "E" electric fork truck. The compact, maneuverable trucks, which range in capacity from 1000 pounds through 4000 pounds, feature entirely new elevating assemblies, hydraulic systems, steering mechanisms and controls, as well as improvements in the brake and drive axles. More lift for a given collapsed height is among the many engineering and operational features incorporated in this line. The new hydraulic system, operating at 2500 to 3200 pounds per square inch, permits use of smaller components—resulting in a more compact truck.

Circle 442 for more information



The Elwell-Parker Electric Co.

Fork truck, with low operator's seat, is designed to provide greater safety for the operator by bringing his head below the top of the uprights on even low-height trucks. Reduction in height of the seat has been accomplished without sacrifice in battery compartment space. Available in 2, 3 and 4000 pound capacity models with either 68 inch or 83 inch collapsed upright height. The truck features a new shock resisting steering axle, double reduction drive axle and new, low pressure hydraulic lift system.

Circle 443 for more information



Hyster Co.

Now available for the first time, a pneumatic-tired truck with the many operating advantages of the exclusive Hyster Monomast. Called the Hyster QN-20, the truck has a 2000-pound capacity at 24-inch load centers. The truck is claimed to be an ideal work horse for both inside and outside operation. Specific operating advantages include faster load placement, reduced driver fatigue and greater safety.

Circle 444 for more information



Allis-Chalmers, Buda Division

A series of special diesel powered, non-electric fork lift trucks in 3000-pound to 10,000-pound capacities that are suitable for use in areas where ordinary, non-protected trucks are prohibited. The use of the Allis-Chalmers Diesel engine in these trucks is said to eliminate hazards due to possible electrical sparks. Electric battery wiring, electric starters, electric generators, and electric instruments are not used.

Circle 445 for more information



The Baker-Raulang Co.

A new gasoline powered industrial fork lift, called the FG 20 features 130 inch lift, extremely short turning radius and a low initial cost. Power for the new unit is provided by a Hercules 29 HP, heavy duty industrial engine. It features two speeds in both forward and reverse. The drive axle has bevel gear reduction and an automotive type differential. Top speed is 5.5 miles per hour.

Circle 446 for more information



Towmotor Corp.

"No peeking allowed" is the word from Towmotor Corp. Company officials reveal that four new models, "Incorporating some of the most significant advances in fork lift truck design-engineering in recent years" will be premiered at the show. A number of the new trucks have been under test for several months in co-operating plants. Continuous, graphic demonstrations will be used to illustrate new handling techniques.

Circle 447 for more information

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We sincerely hope to see all our customers and friends at **space #121 at the Materials Handling Exposition in Cleveland June 5th-8th, 1956.**

*A few choice territories
still open in U. S. A.*

By Invitation Member



HUGHES KEENAN CORPORATION

Delaware, Ohio

Circle No. 82 on Reader Service Card for more information

DU PONT

now has available

TWO CAREER POSITIONS

of

MAJOR RESPONSIBILITY

in

Materials Handling

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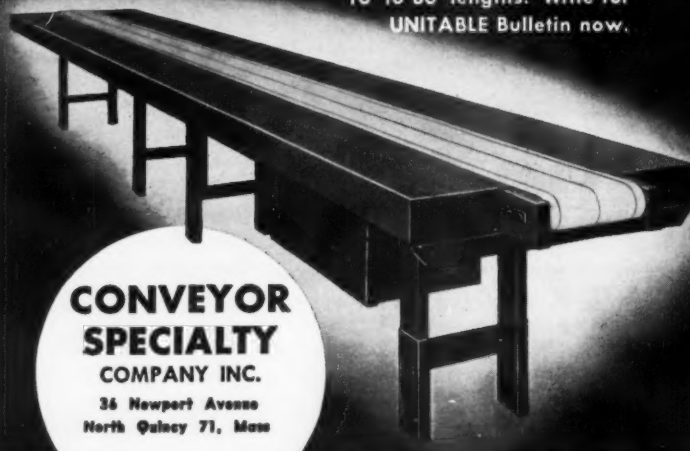
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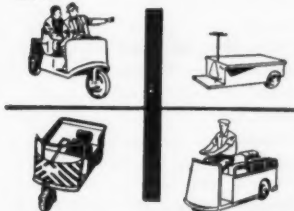


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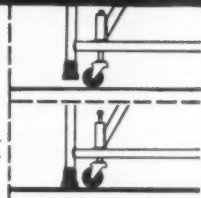
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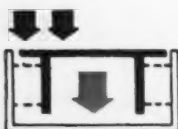
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MAY, 1956

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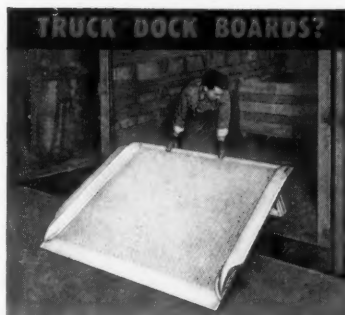
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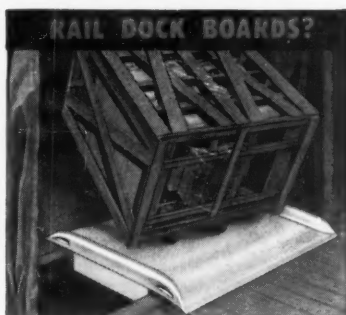
WHICH MAGLINER DOCK BOARD

will best solve YOUR Loading Problems?



TRUCK DOCK BOARDS?

There is a wide variance in the size, height, and widths of modern motor freight carriers. These factors accordingly, are of prime importance in providing the right truck dock board, and must be taken into full account along with the specific requirements of your dock and loading equipment.



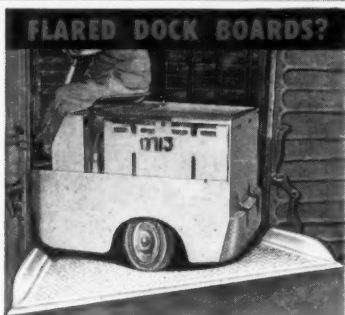
RAIL DOCK BOARDS?

Freight cars too, vary greatly in type, overall width, door width, etc. Here again these important factors must be carefully considered to get the most from your dock board. Magliner Dock Boards give you the most, because they are engineered specifically to meet the requirements of your dock . . . equipment and operating conditions!



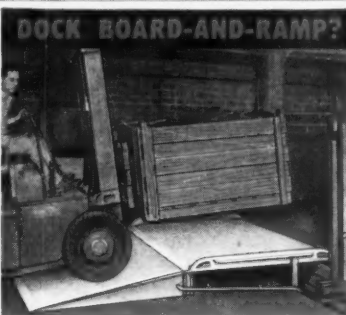
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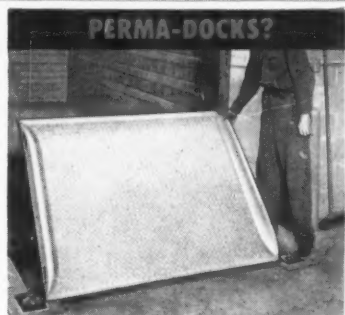
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It will pay you to investigate the many ways in which Magliner Dock Boards can reduce loading costs, and step-up dock handling efficiency. Write today for your copy of Magliner Bulletin DB-204.

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